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Claire J. McLachlan
Alison W. Arrow *Editors*

Literacy in the Early Years

Reflections on International Research and Practice

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International Perspectives on Early Childhood Education and Development

Volume 17

Early childhood education in many countries has been built upon a strong tradition of a materially rich and active play-based pedagogy and environment. Yet what has become visible within the profession, is, essentially a Western view of childhood, preschool education and school education. It is timely that a series of books be published which present a broader view of early childhood education. This series seeks to provide an international perspective on early childhood education. In particular, the books published in this series will:

- Examine how learning is organized across a range of cultures, particularly indigenous communities
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- Examine how early childhood education is researched locally and globally
- Examine the theoretical informants driving pedagogy and practice, and seek to find alternative perspectives from those that dominate many Western heritage countries
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The series covers theoretical works, evidence-based pedagogical research, and international research studies. The series also covers a broad range of countries, including majority poor countries. Classical areas of interest, such as play, the images of childhood, and family studies, will also be examined. However, the focus is critical and international (not Western-centric).

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Literacy in the Early Years

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Preface

Research suggests that children begin to develop understandings of literacy from birth, and emerging curriculum policy in many countries states that children's language and literacy learning during early childhood lays the foundation to later success in compulsory schooling. In some cases, these emergent literacy policies have been followed by local or national investment in particular approaches to supporting children to become literate, with mixed success. However, many approaches to teaching literacy in the early childhood curriculum have been based on rhetoric, ideology, theorizing, or limited research findings, rather than on recent robust evidential research.

Early research on literacy acquisition in children prior to school entry was termed "emergent literacy," building on the research with children learning to read on starting school and the term coined by Dame Marie Clay. Although most of the researchers in this volume identify with the notion of being researchers of emergent or early literacy, the term "early multi-literacies" has been used by the editors to encapsulate the breadth and scope of the studies of early literacy reported in this volume. It also captures the new foci of research in this field since its inception in the late 1970s. The international team of researchers represented in this book all share a common interest in how young children develop a range of literacy knowledge and skills, and many of the research studies also examine the role of teachers, parents, and other children in children's literacy acquisition. Many of the researchers have drawn on sociocultural theories to explain the multifaceted nature of children's literacy learning through oral, visual, aural, digital, and multimodal means, situated within a range of social, cultural, and educational contexts.

This edited collection provides an up-to-date and in-depth exploration of different aspects of contemporary early childhood literacy research, the types of research methodologies being used, and the implications for educational practice. The scope of the book ranges from a focus on children, their perceptions of literacy learning, and the interrelationships with those around them to the challenges that cultural and linguistic diversity pose in literacy learning in early childhood classrooms. It also explores specific aspects of literacy learning, such as writing and morphological

awareness, new issues related to the use of digital technologies in literacy learning, and issues related to the professional learning of teachers.

Each chapter details how the research was done and any issues that researchers encountered in collecting data with very young children, as well as detailing what the research findings mean for educational practice. The ways in which each study contributes to the growing body of research on early multi-literacies are clearly outlined by the authors. The book contains tables, figures, and images, as well as detailed explanations of research methods and their limitations, so the studies can be replicated or expanded upon. Key features for promoting effective literacy practice in early childhood settings are proposed by the authors. This book is an essential read for postgraduate students, researchers, and teachers who are interested in exploring the complexities and challenges of researching, supporting, or planning curriculum for literacy acquisition in the youngest children.

We hope that you enjoy this collection, which provides insights into the literacy worlds of children in diverse countries, as much as we have enjoyed working with all the authors to bring this collection to fruition. We hope that the ideas presented in this collection will inspire another generation of researchers of early multi-literacies.

Hamilton, New Zealand — Claire J. McLachlan
Palmerston North, New Zealand — Alison W. Arrow

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Finally, we want to thank our families for their love, support, and understanding. Claire would especially like to thank her husband, Simon, for his tolerance as yet another book project got completed in weekends when there was gardening to be done. Claire would also like to dedicate this book to her grandchildren, whose language and literacy development is a constant source of delight and interest. Alison would like to thank her husband, Nick, for his patience as weekends were whittled away. Alison would like to dedicate the book to her children, Paige and Emma, who inspire her work every day.

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Chapter 1
Conceptualising Literacy in the Early Childhood Setting

Claire J. McLachlan and Alison W. Arrow

Abstract This chapter will provide a brief introduction to literacy research with children in the early years (birth to 8 years) and will identify some of the pressing issues and concerns in research on early literacy. The theoretical framework which underpins many of the studies is explored, identifying that much research into early literacy has employed socio-pyscho-linguistic, social practice and cultural historical explanations of how children learn. The unifying theme of early multi literacies is explored. An overview of the chapters in the book is provided, along with comment on how each chapter contributes to the growing body of early childhood literacy research.

The Emergence of the Study of Literacy in Early Childhood

It is with enormous pleasure that we present this collection of research on the topic of literacy in the early years. That a call for expressions of interest resulted in such an interesting and important collection of research is testimony to how much this field of literacy research has developed in the last 20 odd years and the enthusiasm that researchers have for the topic.

In New Zealand, where we, the editors of this volume, are based and conduct our research, the interest in early literacy was led by Dame Marie Clay (1991), who pointed out that the timing of beginning formal instruction in reading and writing is culturally defined. She argued that the beginning of formal schooling implies a social belief – that the child is now "ready" for formal instruction in general and literacy in particular. Clay argued that children move from individual learning to

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collective learning on school entry and that some children make this transition readily, while others show the first signs of a trajectory of reading failure within their first year of school. Prior to Clay's research, the focus of literacy research over the previous 100 or more years had been on the notion that literacy is acquired in the school environment and much research had focussed, and continues to focus, on identifying, testing and finding strategies to help children toward the goal of full literacy at primary/elementary school.

The body of research reported in this volume arguably has its origins in the study of "emergent literacy", a coin termed by Clay (1966) to describe the beginnings of reading and writing, which develops in homes and early childhood environments and often in the absence of deliberate tuition. The study of how this early literacy develops and is acquired emerged in part to explain why some children arrive at school better prepared to learn to read and write than others. Clay's own research was with school age children in New Zealand, but her research with new entrants led her to the conclusion that many children entered primary school with a functional understanding of literacy, which she termed 'concepts about print'. Clay's early research showed that children who couldn't read in the full sense of the word showed sensitivity to letter and word forms, appropriate directional movements, self-correction and synchronised matching of spoken word units with written word units. As Clay (1982, p. 22) concluded, "There is nothing in this research that suggests that contact with printed language forms should be withheld from any 5 year old on the grounds that he is immature".

Research suggests that children begin to develop understandings of literacy from birth and emerging curriculum policy in many countries states that children's language and literacy learning in early childhood is foundational to later success in compulsory schooling (McLachlan & Arrow, 2011). However, many approaches to teaching literacy in the early childhood curriculum have been based on rhetoric, ideology, selective theorising or limited research findings, rather than on recent robust evidential research. This edited collection provides an up to date and in-depth exploration of different aspects of contemporary early childhood literacy research and the implications for educational practice. It also illustrates an increasing trend in literacy research with young children, which is to examine the sometimes complex interplay between children's homes and early childhood settings and their increasing engagement with a wide range of literacy tools, including digital technologies. This volume presents a wide range of research, using different writing styles and research methodologies, all of which examines what could be considered to be early multiliteracies, rather than simply emergent literacy. A brief synopsis of the history of this field of research is discussed in the next section.

Literacy as a Complex Socio-Psycho-Linguistic Activity

Pioneers in this new field of research, Teale and Sulzby (1989), described emergent literacy as the beginning of literacy development, and not simply as a cognitive skill to be learned. They defined it as a complex socio-psycho-linguistic activity,

meaning that the social and contextual aspects of literacy are integral to children's development. Similarly, other pioneers, Strickland and Cullinan (1990) argued that children come to formal literacy learning armed with a number of literacy skills:

> The term emergent underscores the fact that young children are in a developmental process: there is no single point where literacy begins. Children's uses, motives and functions associated with reading and writing, and their psycholinguistic processes are to a surprising degree similar to those of adults and older children (1990, p. 427).

Using such a definition of literacy acquisition means that teachers in junior classrooms are faced with children at varying points in their developing literacy. In order to meet children's learning needs, teachers need to be skilled in observing and identifying children's literacy behaviours and planning how to best support children's learning. This view of literacy acquisition is potentially confronting to teachers who want all children to have the same level of development and to teach to a lock step reading programme, or conversely to teachers who think children learn little about language and literacy in the home environment and will learn all they need to know in the classroom. The actual challenge of accepting a definition of emergent literacy is recognising that not all children have equal opportunities for literacy experiences prior to school entry and that some may immediately "fail" within the school system, unless teachers are able to differentiate instruction to meet children's learning needs in both early childhood and school settings. Within most of the chapters in this volume, the issues associated with social justice and rights for equity of literacy opportunity are evident.

The work of Stanovich (1986) on the "Matthew effects" of reading achievement was equally influential in the early phase of literacy research with young children. Merton (1968) originally used "Matthew effects" in terms of the consequences of early educational achievement, from the Gospel according to St. Matthew: "For unto every one that hath shall be given, and he shall be given, and he shall have abundance; but from him that hath not shall be taken away even that which he hath" (XXV:29, cited in Stanovich, 1986, p. 381). Stanovich argued that there is a reciprocal relationship between good vocabulary knowledge, which facilitates reading comprehension, and the act of reading itself, which facilitates vocabulary acquisition. Stanovich proposed a cumulative advantage or "rich get richer" phenomenon embedded in reading progress in vocabulary growth and skill knowledge which results from reading volume. Stanovich's research showed that children who have good vocabularies and read well will read more, learn more words and read better. Research showed that the converse was also true: children who have smaller vocabularies, read slowly and without enjoyment, have a slower development of vocabulary, which further inhibits reading ability (Walberg & Tsai, 1983). Stanovich further argues that the "Matthew effects" spill over into all other areas of learning, creating a "poor get poorer" phenomenon, so that failure in reading leads to failure in other areas which were previously progressing normally. Stanovich argued that the gap widened immeasurably for the child who succeeds or fails in beginning reading instruction.

The body of literacy research concerning young children that began to emerge was concerned with examining what was happening in children's early childhood

contexts that created such differences in their ability to learn to read and write on school entry. Teale and Sulzby (1986) in their influential text *"Emergent literacy: Writing and reading"*, argued that few parents set about actively teaching their preschoolers, but something in their daily interactions had shown beneficial effects for later literacy acquisition. As they commented, "children use legitimate reading and writing behaviours in the informal settings of home and community" (1986, p. xviii). Yetta Goodman's (1986) work on the "five roots of literacy" confirmed this. She found that children developed print knowledge and awareness in situational contexts, such as reading environmental print, and through connected discourse such as learning how to hold and orient books and demonstrate knowledge of terms, such as 'turn the page'. She also found children know the difference between reading and writing and that by the age of 3, 50% of children are making letter like forms. The fourth root of literacy was the ability to use oral language to talk about written language and finally they display metacognitive and metalinguistic awareness about written language, showing ability to talk about reading and writing when written language is not in view. Goodman argued that all children receive an introduction to literacy in their home environments, but the degree of experiences makes a difference to children's preparedness for formal literacy learning.

Much of the research in this field to date has had the socio-psycho-linguistic focus identified by Teale and Sulzby – it has examined how children develop the cognitive and linguistic capabilities required for reading and writing within their homes and communities. Early literacy or emergent literacy can be defined as the period between early childhood and formal schooling when children gain their foundational understandings of what literacy is and what it means for them as learners. The term is used to:

> …denote the idea that the acquisition of literacy is conceptualised as a developmental continuum, with its origins early in the life of a child, rather than an all or none phenomenon that begins when children start school. This conceptualisation departs from other perspectives in reading acquisition in suggesting there is no clear demarcation between reading and pre-reading (Whitehurst & Lonigan, 1998, p. 848).

Emergent literacy means that children develop reading, writing and oral language concurrently and interdependently as a result of children's exposure to social contexts in which literacy is a component and in the absence of formal instruction (Whitehurst & Lonigan, 1998). Whitehurst and Lonigan, in their seminal paper on emergent literacy, further argued that children develop literacy as a result of what they call "inside" and "outside" processes, explaining the complex interplay between a child's maturing brain and the social context in which they learn about the purposes and functions of literacy.

More recently, Teale et al. (2009) have argued that the field of early literacy in particular has burgeoned since the early eighties, as a result of reconceptualisation about how much children understand about language and literacy through experiences without formal instruction. They argue that studies have showed how much children's understandings are shaped by the social processes of the home (e.g. Heath, 1983), and how they become aware of print (Burke, Harste, & Woodward, 1984), learn through interaction with adults in read aloud sessions (Teale, 1984),

begin to use invented spelling strategies as a logical and developmental solution to the language puzzle of learning about written words (Read, 1975) and show metalinguistic awareness of language, words and print in English and other languages (e.g. Ferreiro, 1986; Yaden & Templeton, 1986). Teale et al. consider that this raft of research through the eighties legitimised *emergent literacy*, the term coined by Marie Clay's (1966), as a significant and important field of research and one that underpinned understandings of how to help children gain the fundamental understandings of language required for literacy acquisition.

Since this early research, there has been considerable research effort examining the various socio-psycho-linguistic factors influencing children's early literacy development (Neuman & Dickinson, 2011). This body of research makes clear that children will not develop literacy without involvement in rich literacy environments and without support and active mediation from knowledgeable adults and sometimes peers, who understand how to sensitively support children's emerging understandings. Many of the chapters in this volume have socio-pyscho-linguistic factors at the heart of the research carried out; a focus on how the cognitive skills required for literacy develop with formal and informal mediation.

A Social Practice View of Literacy

The views of literacy expressed in this volume also encapsulate the "social practice" focus of early literacy research, which focuses on how children participate in literacy as part of their social lives. In this view early literacy is seen as a key dimension of community regeneration and a part of the wider lifelong learning agenda, associated with learning social languages and identities. This view of literacy sees children learning a set of complex literacy capabilities rather than a simple set of basic skills. Social practice perspectives focus on local literacies and how literacy practices are affected by settings and groups interacting around print. In this world view, literacy cannot be separated from the social, cultural and historical context in which it is acquired and many of the chapters in this book refer to the contextual factors shaping children's literacy acquisition. Jalongo, Fennimore, and Stamp (2004, p. 62) cite the writings of Bakhtin (1981) about literacy, and argue that literacy is influenced by context, is part of the construction of self, and affects participation in communities. They cite the following aspects of literacy as a social practice:

- *Literacy is deeply influenced by context*. Each person and each use of literacy is situated in a world that is interactional, has certain ideologies and that change occurs as the context changes.
- *Literacy is part of the construction of self*. Bakhtin argued that our beliefs about self are constructed through interaction with people and texts. As he states, "The word in language is half someone else's. It becomes "one's own" only when the speaker populates it with his own intention, his own accent, when he appropri-

ates the word, adapting it to his own semantic and expressive intention" (1981, pp. 293–294).

- *Literacy affects participation in communities*. As children engage with a multitude of texts (broadly defined to include images, symbols and signs) and build dialogic relationships with others either face to face or 'virtually' via social media they learn how to participate in different literacy communities. In this way, learners identify who has power, who speaks and who listens, who writes and reads, who leads and follows and whose story gets told.

Gee (2004) states that people adopt different 'ways with printed words' within different purposes, functions and contexts. In these practices, humans are always meaning producers, not just meaning consumers. As Gee proposes, literacy is always a social and cultural practice, which is integrally linked into ways of talking, thinking, believing, knowing, acting, interacting, valuing and feeling. He considers that it is impossible to just look at the "print bits" and ignore the rest; in this way all a child's interactions with literacy tools are meaningful literacy acts, which are rooted in literacy identities adopted in relation to cultural and social context. Kalantsiz and Cope (2012) similarly argue that the term multiliteracies should be used to express the shifts occurring the ways that people make meaning. Their definition of multiliteracies has two foci: one on *social diversity* or the variability in conventions of meaning in cultural, social or domain-specific situations; the second on *multimodality* or the ways in which written-linguistic modes of meaning interface with oral, visual, audio, gestural and other patterns of meaning. The chapters in this book clearly show that these understandings of multiliteracies develop in very young children, as well as in school aged children.

Knobel and Lankshear (2003, p. 55), in their discussion of "out of school" literacies, argue that there are four main research positions examined as part of literacy as a social practice research:

> A concern with literacy *practice* always takes into account knowing *and* doing, and calls into play the notion of *literacies* as a way of describing how people negotiate and construct patterned and socially recognizable ways of knowing, doing and using languages to achieve different social and cultural contexts.

In this view, there is more than one form of literacy, hence the term "literacies" or "multiliteracies" that is used in much recent writing and the understanding that different people use literacy in different ways in different social settings. Knobel and Lankshear propose that the research into literacy as a social practice has had the following foci:

1. Any literacy practice engaged in by a preschool age individual outside a school;
2. Any literacy practice engaged in by persons of any age within non-school (i.e. non formal education) settings;
3. Any literacy practice engaged in by preschool age individuals in settings outside the school that is not a formally recognised literacy within school pedagogy and curriculum; and

4. Any literacy practice engaged in by persons of any age within non-school (formal education) settings that is not a literacy belonging to a formal education curriculum or pedagogy.

Knobel and Lankshear propose that the first category concerns literacy research which draws on developmental psychology, psycholinguistics and cultural psychology, informed by Vygotsky's theories, which aims to look at the influence of children's lives outside school in terms of emerging literacy. The second type of studies involves family intervention studies which aim to increase family literacy. Typically this type of research looks at how parents/caregivers can provide more effective story book reading and other literacy opportunities in the home, which is reported in this volume. The third type, which is of particular interest for early childhood, is research which concerns comparing the in and out of school literacy competencies and experiences of diverse school children. Knobel and Lankshear state that is research shows that children who fail in one context (e.g. school) may be effective in other out of school contexts. The aim of this research has been to alert teachers to children's literacy proficiencies outside school and examine what literacies children want to use outside school. The fourth type mainly concerns adult learners and is only marginally related to family literacy research reported in this volume. The first three foci are of relevance to the research in this volume.

The Cultural Historical Theoretical Foundation for Literacy Research in This Volume

Much of the research presented in this volume is framed around cultural historical theorising, drawing primarily on the work of Vygotsky (1978, 1986) and more recent research stemming from Bruner (1986), Bodrova and Leong (2005), Fleer (2010), Rogoff (1990, 2003, 2014) and others. Vygotsky's interests in developmental psychology, child development, and education were diverse. His scientific thinking underwent several major transformations throughout his career, but generally his legacy can be divided into two fairly distinct periods and a transitional phase between the two during which Vygotsky experienced a crisis in his theory and personal life. These are the mechanistic "instrumental" period of the 1920s, integrative "holistic" period of the 1930s, and the transitional years of, roughly, 1929–1931. Each of these periods is characterized by its distinct themes and theoretical innovations. His philosophical framework included insightful interpretations of the cognitive role of mediation tools, as well as the re-interpretation of well-known concepts in psychology such as internalization of knowledge. Vygotsky introduced the notion of zone of proximal development, an innovative metaphor capable of describing the potential of human cognitive development, often understood to refer to the way in which the acquisition of new knowledge is dependent on previous learning, as well as the availability of instruction. Vygotsky proposed a theory of the development of higher cognitive functions in children that saw reasoning as emerging through

practical activity in a social environment. During the earlier period of his career he argued that the development of reasoning was mediated by signs and symbols, and therefore contingent on cultural practices and language as well as on universal cognitive processes.

During the instrumental period (1920s), Vygotsky studied child development and the significant roles of cultural mediation and interpersonal communication. He observed how the higher mental functions developed through these interactions also represented the shared knowledge of a culture; a process known as internalization. Internalization can be understood in one respect as "knowing how". For example, riding a bicycle or pouring a cup of milk are tools of the society and are initially outside and beyond the child. The mastery of these skills occurs through the activity of the child within society. A further aspect of internalization is appropriation, in which the child takes a tool and makes it his own, perhaps using it in a way unique to himself. Internalizing the use of a pencil, pen or crayon allows children to use it very much for their own purposes rather than drawing exactly what others have drawn previously. These notions are of particular importance for children learning literacy and underpin much research on the importance of a literacy rich environment (Casbergue, McGee, & Bedford, 2008; Mashburn, 2008; Neuman, 2007) and are exemplified in the studies on children's writing in this volume.

Vygotsky (1997) described the development of higher mental functions as a gradual process involving the transition from inter-individual ("inter-mental") or shared to individual ("intra-mental"). Higher mental functions are shared, meaning that they are co-constructed – constructed by the child in interaction with another person. For young children, most higher mental functions still exist only in their inter-individual form as they share them with adults or with older children through the process of co-construction. The nature of the cultural tools that are acquired and the outcome of their acquisition are determined by the specific interactions that occur between children and their social environment. Vygotsky (1998) called these interactions the "social situation of development," which he considered to be the "basic source" of development. The social situation of development determined Vygotsky's approach to the transition from preschool to school age, including the issue of school readiness. Much of the research in this volume deals with the issue of how literacy in the early years relates to literacy in primary school and issues of transition for the new social situation of development are foregrounded by authors.

Vygotsky (1997) argued that the transition from preschool to school means major changes in the social situations that the child participates in – a change in the nature of the interactions involved in schooling and in the expectations associated with the role of "student." In other words, the way adults interact with children as well as what adults expect children to be able to do changes between preschool and primary school. Changes in the social situation of development include more than participation in the interactions. There must also be a change in the child's awareness of these expectations concomitant with changes in the child's ability to meet them. To adjust to the social situation of school, the child must be aware of the new expectations as well as possess the capacities to meet these expectations. To gain this awareness, the child has to actually participate in school activities and to enter

specific social interactions with teachers and other students. Vygotsky argued that children cannot learn to adjust out of that context. However, certain underlying competencies or accomplishments that develop during early childhood make it easier for children to be ready for the new challenges of schooling. Among these accomplishments are mastery of some cultural tools, development of self- regulation, and the integration of emotions and cognition. Having developed these prerequisites, a preschool child can make the necessary transition from learning that "follows the child's own agenda" to the learning that "follows the school agenda" – one of the basic ways that the social situation of development in school differs from that of preschool (Vygotsky, 1956). Several of the chapters in this volume focus on the development of literacy competencies that will help children to bridge the differing agendas of home, the early childhood setting and the primary school.

Some of the particular concerns of chapters in this volume are associated with what Vygotsky (1978) identified as the twin notions of ***access*** and ***mediation*** to explain the important relationship between the child, the environment and more knowledgeable others. Vygotsky argued that children need both ***access*** to the resources, tools and artefacts of a culture, as well as ***mediation*** (support or guidance) by more competent adults or peers to help them to understand how to use those tools. He proposed that teachers help children to co-construct knowledge within their zone of proximal development, using teaching techniques that assist performance, such as scaffolding (Wood, Bruner & Ross, 1976). He argued that providing access to resources was insufficient and that if children were not given the gift of instruction, they were limited to biological maturation. Vygotsky (1978) theorised that the developing mind of the child is both individual and social at the same time and is the result of a long process of developmental events. John-Steiner and Mahn (1996) consider that the primary focus of cultural historical research has been on how the social co-construction of knowledge is internalized, appropriated, transmitted, or transformed in formal and informal learning settings. Vygotsky's (1978) definition of how children internalise and transform learning suggests that teachers use a range of strategies to promote learning, which is of particular relevance to literacy learning. As John-Steiner and Mahn (1996, p. 197) suggest:

> There are different modes of internalization, reflecting different teaching/interaction strategies. A continuum with direct instruction on one end to creative and collaborative learning on the other could describe the wide range of teaching/learning situations in which internalization occurs. Whether in the learning of a young child or in the activities of experienced thinkers, internalization is a fundamental part of the life-long process of the co-construction of knowledge and the creation of the new.

Vygotsky argued that the mediation provided by a more competent other person using demonstrating, modelling, questioning, feedback and task management helped the child to internalise and transform their understanding. Several chapters in this volume have explicitly examined how literacy is internalised through social interaction with more experienced peers, family or teachers.

Perhaps Vygotsky's most important contribution concerns the inter-relationship of language development and thought and it is this work that has been particularly influential to early literacy researchers. In particular, some of the research in this

volume examines how children acquire metalinguistic knowledge and awareness and make use of private speech as literacy develops. This concept, explored in Vygotsky's book *Thought and Language* (1962/1986) (Russian: Myshlenie i rech, alternative translation: Thinking and Speaking), establishes the explicit and profound connection between speech (both silent inner speech and oral language), and the development of mental concepts and cognitive awareness. According to Vygotsky, language starts as a tool external to the child used for social interaction. The child guides personal behaviour by using this tool in a kind of self-talk or "thinking out loud". Initially, self-talk is very much a tool of social interaction and this tapers to negligible levels when the child is alone or with deaf children. Gradually, self-talk is used more as a tool for self-directed and self-regulating behaviour. Because speaking has been appropriated and internalized, self-talk is typically no longer present around the time the child starts school. Self-talk "develops along a rising not a declining, curve; it goes through an evolution, not an involution. In the end, it becomes inner speech" (Vygotsky, 1987, p. 57).

Vygotsky's (1978) theories have been further developed by a number of researchers, such as Rogoff (1990, 2003, 2014), whose cross cultural studies identified that children also learn through being participants in the work of their families and communities. Rogoff termed this *guided participation*, which takes place when creative thinkers interact with a knowledgeable person and suggests it is practiced around the world. Rogoff (2014) has more recently theorized that children also '*learn by observing and pitching in*' (LOPI), which describes the process of learning alongside other members of a culture and internalizing and appropriating cultural knowledge and practices. The range of types of mediation used for supporting literacy learning in young children is a feature of the research in this volume.

Literacy in the Modern Early Childhood Curriculum

Vygotsky's ideas have been further developed by two of his colleagues, Daniel Elkonin and Alexander Zaporozhets, whose constructs encompass the cultural historical theory of development, play as a leading activity during preschool, and the concept of amplification. According to these neo-Vygotskian researchers, during early childhood cognitive restructuring goes through initial stages as children's use of cultural tools transforms perception and other cognitive processes such as attention, memory, and thinking. In addition social-emotional capacities are transformed. As these cognitive and social-emotional capacities develop, children make the transition from being 'slaves to the environment' to becoming 'masters of their own behaviour' (Bodrova & Leong, 2005, 2010); an issue of key importance for becoming literate.

Elkonin (1977, 1978) viewed childhood as determined by the social-cultural context and through the child's engagement in 'leading activity'. Leading activities are interactions that are unique to a specific period of child development and are necessary to bring about the major developmental accomplishments of that period,

such as literacy play. Consistent with Vygotsky's principle of effective teaching being aimed at the child's ZPD, Elkonin defined the goal of education as promoting developmental accomplishments at each age by supporting the leading activity specific to that age. Within this volume, the provision of literacy experiences that promote the development of literacy is consistent with this notion of literacy play as a leading activity.

Elkonin emphasized the importance of play for children's mastery of social interactions, cognitive development and self- regulation. He identified the essential characteristics that make dramatic play the leading activity of pre-schoolers as the roles children play, symbolic play actions, interactions with play partners, and the rules that govern the play. Thus, only play with a specific set of features is the kind of dramatic play granted the status of leading activity. Other play-like behaviours (such as building with blocks, materials and objects) are assigned secondary albeit important roles (Elkonin, 1978). Elkonin concludes that in make-believe play, children learn to model reality in two different ways: when they use objects symbolically; and when they act out the distilled symbolic representation of the role in the pretend scenario. In both instances, the use of symbols is first supported by toys and props and is later communicated to play partners by the means of words and gestures. Dramatic play reflects the universal path of cognitive development from concrete, object- oriented thinking and action to abstract mental action (Elkonin, 1978), a view which has been substantiated in several literacy studies (Morrow, 2009; Morrow & Schickendanz, 2006). Thus, Elkonin enriched Vygotsky's idea that play scaffolds a child within their ZPD enabling the preschool child to behave at the level where he is "a head taller than himself" (Vygotsky, 1966/1967, p. 16). Although Elkonin's ideas are not explicitly explored by authors in this volume, they are an area of further research to consider.

According to Zaporozhets (1978), early childhood should not be considered as simply a preparation for school. Instead, early childhood should be treated as having a value of its own, as making a unique contribution to the overall process of human development (Zaporozhets, 1978). Processes and outcomes of development – cognitive, social, and emotional – specific to the preschool years are part of the systemic process of human development and cannot be replaced later. Zaporozhets (1986) proposed that development can be ***amplified*** (or enriched) when education promotes developmental accomplishments specific to a particular age and does not attempt to force the emergence of accomplishments that are the outgrowth of later ages. For preschoolers, amplification of development involves expanding and enriching the uniquely "preschool" activities, ensuring that in these activities, children are truly functioning at the highest levels of their ZPD. Zaporozhets emphasizes that properly designed education does not stifle development of preschool children but instead promotes it, thus, presenting a logical extension of Vygotsky's principle of instruction leading child development and is of particular significance for the inclusion of literacy in the early childhood curriculum.

Drawing on Vygotsky's theory and the Russian Ministry of Education guidelines for early childhood (Yudina, Galiguzova, Knyazeva, Mesheryakova-Zamogil'naya, & Sterkina, 2000), the following principles are proposed to underlie a quality cur-

riculum for early childhood (in Bodrova & Leong, 2005), which are of direct relevance for literacy. The curriculum should:

- Amplify the child's learning and development within age and developmentally appropriate activities.
- Have dramatic play as the leading activity of preschool.
- Promote co-construction and individualised teacher-child interactions that scaffold development.
- Uses standards as general instructional guidelines.
- Prepare children for later grades by emphasizing underlying competencies.

Bodrova and Leong (2005, p. 445) usefully highlight that adopting a cultural historical approach to education means reconceptualising how children are taught in early childhood and the goals of education:

> Returning to the original question about quality preschool education, the Vygotskian approach provides another way to examine this issue. On the one hand, Vygotskians emphasize the importance of scaffolding each child's individual, unique, developmentally based needs on one hand. On the other, they acknowledge that the underlying skills that are at the center of development are taught through content. This content is a means for instruction and learning, not its end goal. The approach considers a specific kind of dramatic play as a major activity but argues that it, too, must be scaffolded to develop into an activity that truly fosters development. The approach expands the idea of school readiness from one based on the facts that children must know to the underlying capacities that will make the learning of future skills and knowledge possible.

This notion of considering children's literacy capacities is echoed by Pearson and Hiebert (2010), who state that literacy has been the subject of considerable review over the last half century in many countries to establish consensus and synthesis within the field. This is often at governments' behest, as argued elsewhere (McLachlan & Arrow, 2011). Pearson and Hiebert argue that the most recent American review, the National Early Literacy Panel report (NELP, 2009), strengthens the recommendations from previous reviews, but still doesn't go far enough in extrapolating the implications for teaching in early childhood and primary classrooms; an issue that is addressed by many authors in this text, echoing the previous quote by Bodrova and Leong. In this volume, the authors collectively propose that teachers and parents play a crucial role in both providing ***access*** to enriched literacy environments, but also by ***mediating*** between the child's home background and cultural experiences and what Vygotsky (1998) called 'schooled concepts'. Teachers and parents have the opportunity to open up access to new worlds for the child and through skilful and sensitive teaching ***amplify*** the capacity of children to not only learn to read and write, but to understand the demands of a multi modal and sometimes multi lingual literacy environment. Next, an introduction to the research in this volume is presented.

Overview of the Chapters in This Book

In Chap. 2 Pauline Harris addresses the issues of children's voices in literacy research, a previously neglected field of study. Harris argues that in early childhood, a paradox has emerged between a human rights-based focus on children's voices in matters affecting their lives and the relative silence of children's voices in literacy education policy and practice. In light of this paradox, Chap. 2 presents a case study of young children's voices about their classroom reading experiences. Framed by a sociocultural perspective of reading (Luke & Freebody, 1990) and a participatory research perspective constructing children as competent participants and key informants (Mayall, 2002), the chapter explores the experiences of two case study reading ability groups in their second school year. The study found these children experienced two disparate classroom reading worlds that constructed reading and the reader in substantially different ways. Enabling reading and the reader to greater or lesser extent, these differences provoke reflection on consequences of what is advocated and provided in early years reading programmes – and the importance of understanding these consequences through children's voices. Harris argues that further dialogue is needed about authentic engagement with children's voices in early childhood literacy research, policy and practice.

Chapter 3, written by Gunhild Tomter Alstad and Lise Iversen Kulbrandstad, focuses on how linguistic diversity is reflected in language and literacy practices in early childhood education in Norway, an educational context which traditionally is characterized by informal learning. They argue that early childhood is changing as a result of changes in immigration and as a result of changes in educational policy, which has stressed the importance of kindergarten attendance as an important preparation for learning Norwegian as the main school language. The chapter starts out with a description of the socio-political level including laws, regulations and curriculum concerning bilingualism and literacy. It then draws on analysis of a case study of preschool teachers' second language teaching practices and beliefs, documented through observations and interviews. The analysis demonstrates how informal teaching practices in activities like picture book reading and play create opportunities for more complex and challenging second language and multilingual literacy experiences.

In Chap. 4 Jim Anderson, Ann Anderson, Nicola Friedrich and Laura Teichert report on a bilingual family literacy program with 500 immigrant and refugee families of 4 and 5-year old preschool children from four different linguistic groups in the Greater Vancouver Area of British Columbia, Canada. Like many other authors in this volume, they situate the work in cultural historical theory and draw on notions of intersubjectivity and additive bilingualism – the concept that there are benefits in maintaining one's first home language while acquiring second or additional languages. Drawing on analysis of focus group sessions, the Parents' Perceptions of Literacy Learning Interview Schedule (Anderson, 1995), and field notes, the authors report on families' perceptions of the benefits of the program, concerns and issues raised, and changes in perspectives of literacy learning over the course of the project.

Chapter 5 reports a study in Israel by Dorit Aram, Lili Elad-Orbach and Shimrit Abiri which examined young children's acquisition of writing capabilities in their homes, based on a cultural historical framework (Vygotsky, 1978). Fifty kindergarteners were recorded in their homes in three situations: (1) writing five words with parental mediation; (2) writing the same words independently; (3) instructing the writing of the words to a hand puppet. Results demonstrate that there are positive correlations between parents' writing mediation, children's private speech while writing, children's understanding of the writing process as expressed while teaching the puppet, and children's independent writing level. Beyond this, the authors found that each of these variables has an independent contribution to children's writing, with the three variables together predicting 80 % of the variance in children's writing level.

In Chap. 6 Sue Lyle and Anna Bolt report on a qualitative study from Wales in the United Kingdom that examined the impact on children's literacy of the Storytelling Curriculum (Paley, 2004; Cooper, 2009; Egan, 1992) that privileged children's voices and encouraged them to become authors by dictating their stories to adults. Two schools in Wales took part in this study; the first school is the main focus for the chapter, with supplementary evidence from the second school that joined the project. The chapter discusses findings from interviews with teachers and children about the effectiveness of the Storytelling Curriculum. Dictated stories by the children in both schools were analyzed and results of standardized reading tests are presented from the case study school. Findings show that where meaning making, enjoyment and imagination are put at the heart of the writing process children are energised to compose story and learn to write by creating and dictating stories.

Chapter 7 reports a study by Mary Ann Evans and Kailey Pearl Ennis in Canada that investigated the association of child shyness and decoding ability with parent and child behaviours when children encounter difficult words during shared book reading. Grade one children and their parents were observed reading storybooks together that the child could read with assistance. Children's shyness and their ability to decode pseudowords were also assessed. Shyer children and poorer readers less often attempted to read words that they found difficult in the text. Parents of shyer children and of less skilled readers responded to this and other reading errors by providing more context cues and fewer encouragements to try the word again. The findings demonstrate a new facet of the way in which behavioural inhibition in shy children and protective parenting of them are manifested, and suggests a mechanism for the negative association between shyness and academic achievement found in previous studies. The findings also highlight the need for teachers and parents to be more reflective in their shared-book interactions with shy children.

In Chap. 8 William Wilson and Kauanoe Kamanā explore the development of a Hawaiian literacy program. They point out that Hawaiian is the only language other than English that is official in a state of the United States; it is also a highly endangered language and the object of a school-based revitalization movement, which is discussed in this chapter. At the base of the movement are the Pūnana Leo preschools. Hawaiian literacy is taught in them through the Hakalama, a syllabary using the Roman alphabet. Contemporary research has established that the childhood

cognitive development necessary to break words into syllables precedes the ability to break words into phonemes by approximately 2 years. The ʻAha Pūnana Leo seeks to take advantage of that research to produce a high level of literacy upon graduation from preschool. Assessments of students using the Hakalama shows that they are reaching a relatively high level of literacy by the end of preschool and that literacy in Hawaiian is transferring to literacy in English even before instruction in English.

In Chap. 9 George Manolitsis reports on two studies conducted in Greek kindergartens. The chapter examines whether morphological awareness instruction in Kindergarten classrooms contributes to the improvement of young children's early literacy skills (e.g., morphological and phonological awareness, print knowledge, vocabulary). George and his research team implemented two quasi-experimental studies with a pre-test/post-test design and a control group. In both studies, the treatment groups received a 5 weeks intervention with several morphological awareness activities, while the control groups attended the mainstream classroom literacy activities. Both studies' findings showed that the treatment groups who received morphological awareness instruction or a blended instruction on morphological and phonological awareness improved their morphological awareness abilities more than the control group. According to Manolitsis, the teaching of morphemes in Kindergarten is beneficial for morphological awareness improvement, but it has to be combined with other early literacy activities in order to have broader effects on young children's literacy development.

Barbara De Baryshe and Kathleen Gauci report on the The Early Reading First program (ERF) in Chap. 10, which was sponsored by the U.S. Department of Education to develop model "preschool centers of excellence" that enhance the early language and literacy skills of low-income preschool children. In this chapter they discuss the outcomes of two ERF projects conducted with Head Start classrooms in Hawaiʻi. The intervention included 3–4 consecutive years of intensive professional development on research-based curriculum and instruction, teacher-child interaction, family engagement and child progress monitoring. Outcomes included large gains in intentional literacy instruction, classroom quality, and family engagement, and moderate gains on child language and emergent literacy skills. Despite the academic focus, most teachers were highly satisfied with the experience, reporting increased child motivation and considerable professional growth.

In Chap. 11 Claire McLachlan and Alison Arrow report on two studies conducted in early childhood centres in low socioeconomic communities. The mixed methods studies (Punch, 2009) discussed in this chapter explored if different approaches to professional learning would lead to improved literacy outcomes in children. Study one examined if a workshop on literacy acquisition would increase teachers' understandings of literacy and enhance children's literacy outcomes over an 8 week intervention period, with a fifth centre used as a control (McLachlan & Arrow, 2013). Pre- and post-test measures of children's literacy were collected, along with teachers' accounts of how they promoted literacy during the intervention period. The second study examined if collaborative planned reviews with kindergarten teachers would enhance literacy outcomes for children. Children's literacy was

assessed at three intervals, using methods trialled in study one. Teachers' and parent's views about literacy were also collected, which were discussed at regular meetings with the research team. Key findings suggest both models lead to changes in teachers' practice and children's literacy outcomes, although there are caveats to use of both models of professional learning.

Chapter 12 reports on a group of studies by Brian Finch and Alison Arrow on the use of new technologies and literacy. As they argue, new domestic digital technologies (smartphones, iPads, tablet computers, laptops) have altered children's access to narratives and information. However, limited teacher knowledge of students' experiences of digital technologies, and of the technologies themselves, limits their effective use in primary classrooms. In early childhood education settings, when the technology is available there is a tension between providing planned scaffolding with digital technologies and the philosophies of child-centred, play-based learning. The authors used survey, interviews, diaries and video to examine children's use of technologies and their use in literacy learning. The findings suggest that children use a variety of technologies, often based around specific narratives. The uses of the technology are interactive with family members and often illustrate literacy learning that even parents are unaware of. Findings suggest tensions between teacher knowledge and practice in primary and early childhood settings in relation to children's home experiences of multiliteracies. Implications for practice include suggestions for the use of multiple technology forms across home and educational settings that are child-orientated rather than teacher-orientated.

In Chap. 13 Karen McLean also explores the issues associated with multiliteracies, new technologies and early childhood and primary educational settings. She argues that the application of technology to the literacy context presents challenges for teachers in the early years of formal education. One way of thinking about technology may be to consider the intersection of theories of literacy learning and understandings of technology use in the practice of early years teachers. The research reported in this chapter adopted a narrative methodology to explore two teachers' literacy practices with technology in the early childhood context. The findings suggested that flexible approaches to the application of technology in early years literacy learning contexts could contribute to effective pedagogical practice.

In the final chapter, the themes and issues arising in the volume are explored. This chapter concludes the book and identifies the nature of research methods used, key themes or commonalities in the research undertaken and implications for the teaching and learning of literacy in the early childhood setting. In addition, this chapter explores whether a research agenda for early literacy research can be identified from the chapters and other sources, which may be useful in guiding further research and identifying implications for policy.

Summary and Conclusion

As this introduction to this volume shows, the research presented in this volume is concerned with both the development of young children's literacy as a socio-psycho-linguistic activity and as a result of the social practices in which they engage with families, communities and educational settings. The research in this volume is primarily underpinned by cultural historical theorising and its core concepts of concerning literacy of internationalisation, appropriation, access and mediation, the zone of proximal development and the social situation of development (Vygotsky, 1986, 1978). More recent Vygotskian theorising which frames literacy as a leading activity in early childhood that can be amplified and enriched through appropriate curriculum experiences is also proposed by the authors. The messages in this volume are clear: early multiliteracies are a complex set of capabilities that can be enhanced through skillful and thoughtful teaching in playful, enriched learning environments in homes and early childhood settings. This volume highlights a number of key findings and also directions for future research.

References

Anderson, J. (1995). Listening to parents' voices: Cross cultural perceptions of learning to read and to write. *Reading Horizons, 35*, 394–413.

Bakhtin, M. M. (Ed.). (1981). *The dialogic imagination: Four essays by M. M. Bakhtin*. Austin, TX: University of Texas Press.

Bodrova, E., & Leong, D. J. (2005). High quality preschool programs: What would Vygotsky say? *Early Education and Development, 16*(4), 435–444.

Bodrova, E., & Leong, D. (2010). *Curriculum and play in early child development, encyclopedia on early childhood development*. Centre of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development, Montreal. Available at: www.child-encyclopedia.com/documents/Bodrova-LeongANGxp.pdf

Bruner, J. (1986). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Burke, C., Harste, J., & Woodward, V. (1984). *Language stories and literacy lessons*. London: Heinemann.

Casbergue, R., McGee, L. M., & Bedford, A. (2008). Characteristics of classroom environments associated with accelerated literacy development. In L. M. Justice & C. Vukelich (Eds.), *Achieving excellence in preschool literacy instruction* (pp. 167–181). New York: Guilford Press.

Clay, M. (1982). *Observing young readers: Selected papers*. London: Heinemann.

Clay, M. (1991). Developmental learning puzzles me. *Australian Journal of Reading, 14*(4), 263–276.

Clay, M. M. (1966). *Emergent reading behaviour*. Auckland, New Zealand: Unpublished doctoral thesis, University of Auckland.

Cooper, P. (2009). *The Classrooms all young children need: Lessons in teaching from Vivian Paley*. Chicago, IL: University of Chicago Press.

Egan, K. (1992). *Imagination in teaching and learning: The middle school years*. New York, NY: Routledge.

Elkonin, D. (1977). Toward the problem of stages in the mental development of the child. In M. Cole (Ed.), *Soviet developmental psychology* (pp. 538–563). White Plains, NY: M. E. Sharpe (Original work published 1971).

Elkonin, D. (1978). *Psychologija igry [The psychology of play]*. Moscow: Pedagogika.
Ferreiro, E. (1986). The interplay between information and assimilation in beginning literacy. In W. H. Teale & E. Sulzby (Eds.), *Emergent literacy: Writing and reading* (pp. 15–49). Norwood, NJ: Ablex.
Fleer, M. (2010). *Early learning and development: Cultural-historical concepts in play*. Port Melbourne, Australia: Cambridge University Press.
Gee, J. P. (2004). *Situated language and learning: A critique of traditional learning*. London: Routledge.
Goodman, Y. (1986). Children coming to know literacy. In W. Teale & E. Sulzby (Eds.), *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.
Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge, UK: Cambridge University Press.
Jalongo, M. R., Fennimore, B. S., & Stamp, L. N. (2004). The acquisition of literacy: Reframing definitions, paradigms, ideologies and practices. In O. N. Saracho & B. Spodek (Eds.), *Contemporary perspectives on language policy and literacy instruction in early childhood education* (pp. 57–110). Greenwich, CN: Information Age Publishing.
John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist, 31*(3/4), 191–206.
Kalantsiz, M., & Cope, B. (2012). *Literacies*. Port Melbourne, Australia: Cambridge University Press.
Knobel, M., & Lankshear, C. (2003). Researching young children's out of school literacy practices. In N. Hall, J. Larson, & J. Marsh (Eds.), *Handbook of early childhood literacy* (pp. 51–65). Thousand Oaks, CA: Sage.
Luke, A., & Freebody, P. (1990). Literacies programs: Debates & demands in cultural context. *Prospect, 5*(7), 7–16.
Mashburn, A. J. (2008). Evidence for creating, expanding, designing and improving high quality preschool programs. In L. M. Justice & C. Vukelich (Eds.), *Achieving excellence in preschool literacy instruction* (pp. 5–24). New York, NY: Guilford Press.
Mayall, B. (2002). *Towards a sociology for childhood: Thinking from children's lives*. Buckingham, UK: Open University Press.
McLachlan, C., & Arrow, A. (2011). Literacy in the early years in New Zealand: Policies, politics and pressing reasons for change. *Literacy, 45*(3), 126–133.
McLachlan, C. J., & Arrow, A. W. (2013). Promoting alphabet knowledge and phonological awareness in low socioeconomic child care settings: A quasi experimental study in five New Zealand centres. *Reading and Writing*, *27*, 819–839. doi:10.1007/s11145-013-9467-y.
Merton, R. (1968). The Matthew effect in science. *Science, 159*, 56–63.
Morrow, L. M. (2009). *Literacy development in the early years: Helping children to read and write* (6th ed.). Boston, MA: Pearson.
Morrow, L. M., & Schickendanz, J. A. (2006). The relationship between socio dramatic play and literacy development. In D. K. Dickenson & S. B. Neuman (Eds.), *Handbook of early literacy research* (Vol. 2, pp. 269–280). New York: Guilford.
National Early Literacy Panel. (2009). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy.
Neuman, S., & Dickinson, D. K. (2011). *Handbook of early literacy research* (Vol. 3). New York: Guilford Press.
Neuman, S. B. (2007). Social contexts for literacy development: A family literacy program. In K. A. Roskos & J. F. Christie (Eds.), *Play and literacy in early childhood: Research from multiple perspectives* (2nd ed., pp. 151–168). New York: Lawrence Erlbaum Associates.
Paley, V. G. (2004). *A Child's world: The importance of fantasy play*. Chicago, IL: The University of Chicago Press.
Pearson, P. D., & Hiebert, E. H. (2010). National reports in literacy: Building a scientific base for practice and policy. *Educational Researcher, 39*, 286–294.
Punch, K. (2009). *Introduction to research methods in education*. Thousand Oaks, CA: Sage.

Read, C. (1975). *Children's categorization of speech sounds in English*. Urbana, IL: National Council of Teachers of English.
Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford University Press.
Rogoff, B. (2003). *The cultural nature of human development*. Oxford, UK: Oxford University Press.
Rogoff, B. (2014). Learning by observing and pitching in to family and community endeavors: An orientation. *Human Development, 57*(2/3), 69–81.
Stanovich, K. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*(4), 360–406.
Strickland, D. C., & Cullinan, B. (1990). Afterword. In M. J. Adams (Ed.), *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
Teale, W. (1984). Reading to young children: Its significance to literacy development. In H. Goelman, A. Oberg, & F. Smith (Eds.), *Awakening to literacy*. Exeter, NH: Heinemann Educational Books.
Teale, W., Hoffman, J., Paciga, K., Lisy, J. G., Richardson, S., & Berkel, C. (2009). Early literacy: Then and now. In J. V. Hoffman & Y. M. Goodman (Eds.), *Changing literacies for changing times: An historical perspective on the future of reading research, public policy and classroom practices* (pp. 76–97). London: Routledge.
Teale, W., & Sulzby, E. (Eds.). (1986). *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.
Teale, W., & Sulzby, E. (1989). Emergent literacy: New perspectives. In D. S. Strickland & L. S. Morrow (Eds.), *Emerging literacy: Young children learn to read and write*. Newark, NJ: International Reading Association.
Vygotsky, L. (1997). *The history of the development of higher mental functions* (M. J. Hall, Trans., Vol. 4). New York: Plenum Press. (Original work published 1983).
Vygotsky, L. S. (1956). Obuchenije i razvitije v doshkol'nom vozraste [Learning and development in preschool children]. In L. Vygotsky (Ed.), *Izbrannye psychologicheskije trudy [Selected psychological studies]*. Moscow: RSFSR Academy of Pedagogical Sciences.
Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
Vygotsky, L. S. (1986). *Thought and language*. Cambridge, MA: Harvard University Press.
Vygotsky, L. S. (1987). *Thinking and speech*. New York: Plenum.
Vygotsky, L. S. (1998). *The collected works of L.S. Vygotsky*, Vol. 5 (R. W. Rieber Ed., M. H. Hall, Trans). New York: Kluwer Academic/Plenum Publishers.
Walberg, H. J., & Tsai, S. (1983). Matthew effects in education. *Educational Research Journal, 20*, 359–373.
Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*, 848–872.
Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Child Psychiatry, 17*, 89–100.
Yaden, D., & Templeton, S. (Eds.). (1986). *Metalinguistic awareness and beginning literacy: Conceptualising what it means to read and write*. Portsmouth, NH: Heinemann.
Yudina, E. G., Galiguzova, L. N., Knyazeva, O. L., Mesheryakova-Zamogil'naya, S. Y., & Sterkina, R. B. (2000). *Standarty v systeme doshkolnogo obrazovaniya [Standards in preschool education]*. Moscow: Ministry of Education.
Zaporozhets, A. (1986). *Izbrannye psychologicheskie trudy [Selected works]*. Moscow: Pedagogika.
Zaporozhets, A. V. (1978). *Printzip razvitiya v psichologii [Principle of development in psychology]*. Moscow: Pedagogika.

Chapter 2
In Dialogue with Children: Exploring Children's Views of Literacy Practices in Their Early Childhood Settings

Pauline Harris

Abstract In early years literacy policies and decision-making, children's voices are quite silent despite their right to have voice in matters affecting their lives (UNCRC, 1989). Calling for a rights-based shift in literacy research, this chapter reports a study of children's voices about reading in their second school year. This study was driven by moral and pedagogic imperatives to engage with children's voices about their reading education at school. Constructing children as competent participants, key informants and human rights bearers (Mayall, 2002), this study is framed by a sociocultural perspective of reading (Luke & Freebody, 1990). Children's perspectives of their participation, efficacy and wellbeing as readers at school provoke reflection on consequences of what is provided in early years programmes, highlighting importance of understanding these consequences through children's voices and considering children's views in policy and decision-making.

Honouring Children's Right to Be Heard

In 1989, the United Nations Convention on the Rights of the Child (UNCRC) affirmed children's right among that:

> States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child. (Article 12)[1]

In nations having ratified UNCRC– including Australia, this study's national context –honouring this right is a legal obligation. Since UNCRC, burgeoning research of children's participation acknowledges children as competent from birth;

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testifies to young children's capacity to express views about their life matters; and evidences value children's voices and perspectives bring to policy and practice (e.g., Clark, Kjorholt & Moss, 2005; Harris & Manatakis, 2013; Mac Naughton, Hughes, & Smith, 2008; Percy-Smith & Thomas, 2009; Sommer, Samuelsson, & Hundeide, 2010).

Yet in literacy research, children's voices research are scarce. Orellana and Peer (2013), investigating early childhood literacy research methodologies reported in five key literacy journals 2000–2010, found most researchers used adult-centric lenses. A minority suspended their own interpretations and listened carefully as they gave children opportunity to express their perspectives.

Relative absence of children's voices research in literacy and more specifically reading polices (Harris, 2015) is not surprising then. Despite using 'all children' frames, reading recommendations are informed by beginning and low achieving readers' construed needs rather than anything children's views more broadly might suggest (e.g., DEST, 2005; National Reading, 2000)– perpetuating a sense of 'doing to' and 'for' children in teaching all children how to read (Harris, Turbill, Kervin, & Harden-Thew, 2010).

Literacy studies engaging with children's voices bring valuable and necessary information to decision-making arenas. Documenting young children's views contribute to understanding their perspectives and experiences hidden often from view (Pahl & Allan, 2011). Such research illuminates merits of instructional practices– such as Harrett and Benjamin's study (2005) of children's preferences for print stories over oral stories; and Certo, Moxley, Reffitt and Miller's study (2010) of children's changing perceptions of literature circles across Grades One to Five.

Such research also questions assumptions and unintended consequences of instructional choices, highlighting implications for children's sense of reading and identity as readers. For example, Levy (2008) evidenced children feeling they must abandon their literacy resources to engage with traditional classroom literacy practices. Levy (2009) found children's broad sense of reading narrowed as their early schooling continued, coming to see themselves as readers only if they could master their classroom levelled readers. Lever-Chain (2008) documented unintended negative effects of skills-based approaches on 5-year-old boys' attitudes to reading; and Hancock and Mansfield's investigation (2002) of 6- to 13-year-old children's views brought into question if literacy hours are as productive for children's literacy learning as claimed.

Children's voices literacy research also illuminates what is important to young children as they progress as readers at school. For example, Harris'(2015) longitudinal study revealed children's sense of emotional wellbeing was critical in their first school year, giving way in the following two years to concern with their efficacy as readers, influenced by comparative literacy capabilities made visible in classrooms.

From UNCRC's Article 12 and this small body of literacy research, moral and pedagogic imperatives for engaging with children's voices are clear. From a rights-

based perspective, honouring Article 12 should be included in best literacy education practice, understanding and improving practices through lenses of those directly experiencing what and how we teach. So engaging requires building dialogic relationships with children and engaging with them as competent, insightful people (Delpit, 2003).

Driven by this imperative, this study explored children's reading worlds at school through their voices. The central research question was: How are children coming to define reading and themselves as readers in their reading worlds at school? To answer this question, the following questions were explored:

- What are children's views of reading and their participation, efficacy and wellbeing as readers at school?
- What are children's views of their classroom reading experiences?
- In what ways are children's views similar or different from the standpoint of their differentiated reading groups?

Research Approach

How literacy is researched constructs children in particular ways and needs to be read as such (Bloome, Katz, Hong, Woods, & Wilson, 2013). Located in the constructivist research paradigm (Lincoln, Lynham, & Guba, 2011), this study regarded children as constructors of their realities. Nuanced by new sociology of childhood (Mayall, 2002), this study further viewed children as competent participants and key informants with the right to have voice in matters affecting their lives (UNCRC, 1989). Therefore as researcher, I engaged with and facilitated reconstruction of children's multiple voices. So doing resonates with constructivists' ontological position that multiple realities arise from individuals' own constructions:

> *Our individual personal reality – the way we think life is and the part we are to play in it – is self-created. We put together our own personal reality* (Guba & Lincoln, 1985, p. 73).

Constructivist researchers' epistemological position that we construct meaning based on interactions with our surroundings (Lincoln et al., 2011) required this study to carefully contextualize children's voices in their classroom reading situations to understand their meanings about their participation, efficacy and wellbeing as readers at school.

Taking an exploratory case study approach (Yin, 2009) in children's classroom, two groups of children comprised two case studies described under 'Site and Participants'. This approach resonates with the constructivist paradigm for seeking to understand complex and significant social phenomena in real-life contexts (Yin, 2009)– in this case, children's views of reading and themselves as readers at school.

The study is limited in terms of two small single-site case studies while allowing for exploratory in-depth focus. As such, this study can inform further children's literacy research in multiple sites, larger participant groups, and different age groups and literacy programs.

Conceptual Framework

How reading is theorised reflects how children are constructed. Portraying reading but not the child alienates children's identity and agency as readers and the place reading has in children's lives. Therefore this study foregrounds children as active agents of reading, acknowledging their literacy resources (Bourdieu & Passeron, 1990; Thomson, 2000).

This study defines reading as social practice situated in day-to-day lives (Luke & Freebody, 1990), recognising its significance for children's education, wellbeing, participation and life chances (Luke, 2004). Reading involves: constructing textual meaning (text participant practices); using texts for social purposes (text user practices); decoding texts (text decoder practices); and critiquing texts (text analyst practices) (Luke & Freebody, 1990). These four reading practices incorporate multiliteracies regarding textual modes and multimodal texts (Cope & Kalantzis, 2013); and complement and support one another in action and in learning these practices. Taken together, these practices are necessary to, but not each alone sufficient for, successful literate functioning (Luke & Freebody, 1990).

These reading practices occur in contexts of situation (Halliday, 1978) characterised by their content, participants' roles and relationships, and modes of text and interactions (e.g., written, visual, spoken, multi-modal) (Harris, Turbill, Fitzsimmons, & McKenzie, 2006). Children's recurring situational encounters influence what becomes children's 'habitus'– that is, 'a durable, transposable system of definitions of themselves and their world' (Bourdieu 1992, p. 134). Thus this study identified classroom reading situations children habitually experienced and explored children's views of these situations to understand how children were defining reading and themselves as readers at school.

Site and Participants

The study was conducted in a first grade (second school year) classroom in a socio-economically and culturally diverse school. First grade classes were organized as parallel mixed ability classes, with 28 children in this study's classroom.

The class reading program prioritized decoding skills, especially phonics, as building blocks for learning to read. There were daily, whole class free choice individual and paired reading and shared reading when the teacher read to the class.

The teacher valued storybook reading for highlighting reading's pleasures and modelling herself as a reader. Modelled reading sessions explicitly demonstrated decoding, meaning-making reading strategies and think-aloud commentaries.

Daily whole class decoding lessons involved analytic phonics strategies focused on whole words and analyzing their letter sounds; and synthetic phonics strategies for discovering word pronunciations through sounding and blending. The teacher implemented weekly studies of initial word sounds, medial vowels and word patterns (such as word families, e.g., 'at' word family as in 'cat', 'pat' and 'sat'), accompanied by flashcard drill, worksheets and reading games to build sight vocabulary, word analysis techniques, phonemes and word blending strategies.

The Study's Children

Children in two of the classroom's five reading ability groups were this study's focus. Children's group allocations were based on the teacher benchmarking children's oral reading performance against reading levels of the school's commercial graded reading series, with focus on decoding skills. Parameters thereby were set for instructional activities and reading materials available to children, providing intensive phonics instruction for children with lower assessment outcomes.

The study's two case study groups were the Yellow Group (hereafter YG, assessed by the teacher to have high reading abilities); and Green Group (hereafter GG, assessed by the teacher to have low reading abilities). I administered the Neale Analysis of Reading Ability (Neale, 1999) for independent measures of children's reading accuracy, comprehension and rate of reading. This instrument yields standardised scores and reading ages, and is used with 6- to 12-year-olds as well as special needs students through to adult level. Its administration is not time-specific and generally takes 20 min to complete.

Table 2.1 shows YG and GG children's mean reading ages. YG children all had reading accuracy, comprehension and rate of reading scores above their respective chronological ages, while GG children had reading scores commensurate with or slightly below their respective chronological ages.

Table 2.1 Mean reading ages from Neale analysis of reading

	YG	GG	Difference (months)
Chronological age	6.6	6.8	2
Reading accuracy	8.2	6.3	23
Rate of reading	8.0	6.6	18
Comprehension	7.8	6.8	12

YG and GG Reading Experiences

YG children engaged with experiences encompassing meaning, purpose and code across narratives, recounts, factual texts and levelled readers. Focusing on literal and higher-order meaning and code, their teacher-directed lessons involved guided reading with levelled readers containing extended text. Their tasks included decoding and comprehension worksheets as follow-up to guided reading; activities such as cloze passages, acrostics and crosswords; recreational reading and project-related library work; writing stories and other text types (recounts and information reports most often); and reading games and comprehension activities linked to what children read to apply decoding skills and develop literal and higher-order inferential and evaluative comprehension.

GG children's reading experiences focused on decoding skills, particularly phonics, excluding or de-emphasizing other reading practices. They were given levelled readers containing limited text, with access to other text types in silent and partner reading. Emphasizing code and to lesser extent literal meaning, GG's teacher-directed lessons involved guided reading with levelled readers. Their tasks focused on code and included teacher-designed and commercially produced worksheets; worksheets involving sounds of the week, cloze passages, word/picture matching, sentence matching and sequencing exercises; sight word activities such as flashcards and memory or concentration word games; word and sound bingo and other various reading games; and alphabet magnets and puzzles to manipulate letters to create words and sentences.

Considering YG's and GG's markedly different reading experiences vis-à-vis texts and opportunities to engage across reading practices, engaging with these children allowed their views to be explored in-depth from the standpoint of their differentiated reading experiences.

Data Collection and Analysis Procedures

Collecting data three mornings a week for three months, I observed and took field notes of the enacted class reading program, supported by program copies and children's work samples. Conducting a two-hour interview and ongoing conversations with the teacher about the class reading program, I documented its goals, priorities, materials, teaching strategies, learning experiences, assessment procedures and underpinning teacher beliefs. These data informed the above account of the class reading program and contextualized my dialogic encounters with children.

Dialogic Encounters with Children

Individual conversations with focal children were used to gather data that could inform two of the research questions: what children's views of reading and their participation, efficacy and wellbeing as readers at school are; and what children's views of their classroom reading experiences are. Occurring on the classroom's quiet verandah, these conversations were framed by Freire's (2000) notion of dialogic encounter for exploring participants' thematic concerns and interests. Given Freire wrote about engaging with adults, this study adapted dialogic encounter for engaging with young children. To ensure child appropriateness and authenticity, several key principles were enacted (Harris & Manatakis, 2013):

- Encounters are meaningful to children and ensure shared clarity of purpose and outcome: Explaining my reasons for seeking their views for understanding what helps them learn to read at school, I monitored shared understanding and assent throughout these interactions.
- Encounters occur in familiar settings with those children know and trust: I engaged with children in their classroom setting, having spent the school year thus far as a classroom participant observer where I had developed trust with the children.
- Children's participation is supported through appropriate means of expression: These spoken encounters were mediated by children's chosen texts; photographs of their classroom reading situations; and a sorting activity using these photos.
- Children's agency and participation are supported through co-construction between child and adult (Vygotsky, 1978): Leading open-ended questions were posed and interactions scaffolded through clarification, prompts and cross-checking with the child.
- Encounters occur in inclusive situations so all voices are heard: Encounters occurred with each child on a one-to-one basis.
- Time allocation and interactional structures allow sustained dialogue: Providing key questions and adequate time, a conversational approach and the photo-sorting activity's structure (later described) supported dialogue.
- Encounters involve trustworthy documentation of children's words and intended meanings cross-checked with children: Interactions were audio-recorded and transcribed, supported by field notes and triangulated across encounters and observational data.

Following a consistent format across children, encounters were organized into two phases.

Phase One of Dialogic Encounters

This phase explored the research question that asked what children's views of reading and their participation, efficacy and wellbeing as readers at school are. To begin, I asked the child to share a favorite book with me, providing a meaningful springboard for talking about what children do as readers. Key questions included, 'I'd like to know how you know what that [pointing to the text] says. Can you tell me?' and 'What do you do if you don't know what a word says?' Conversation broadened out to exploring what children think reading is, then shifted to reading at school, prompted by, 'Would you like to tell me about the kinds of reading you do in your classroom?' that also gave them the option of taking me on a classroom tour to contextualize this talk.

These encounters' audio-transcripts, annotated with field notes, were analyzed interpretively to identify and categorize children's emergent themes (Glesne, 2006; Strauss & Corbin, 1990) and to code text participant, user, decoder and analyst practices. These analyses were triangulated across encounters and observational data. Analysis outcomes were collated for each group and compared across the groups to address the research question that asked what ways are children's views similar or different from the standpoint of their differentiated reading groups.

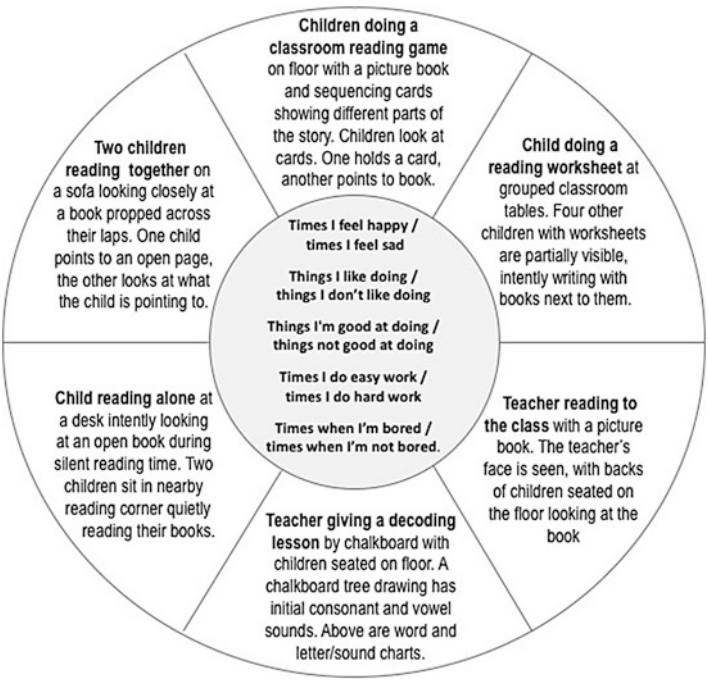

Fig. 2.1 Photos and sorting criteria used in photo-sorting activity

Phase Two of Dialogic Encounters

Phase Two explored the research question that asked about children's views of their classroom reading experiences. This phase involved a photo-sorting activity I had designed (Harris, 2015). I showed the child photos of six reading situations described in Fig. 2.1, chosen because they depicted individual, small group and whole class situations found in the children's classroom.

Time was taken to talk about the photos and ensure shared understanding of what they portrayed. I then asked the child to sort the six photos five times, each time according to a specific pair of criteria shown in the center of Fig. 2.1. These sorting criteria were worded in terms children understood and called on children to project themselves into the photographed situations. I explained they did not have to place each photo in either group; and if the child was unsure or had mixed feelings, they could leave those photos out or place them in a third group. After each sort, I asked the child to explain their reasons for placing the photos.

This activity yielded 180 photo-sorting responses in each reading group– that is, six children's responses for each of six situations for five sorting criteria. Photo-sorting outcomes were collated as a single table to show numeric trends among children in each reading group, allowing comparisons between groups to be made. These encounters' audio transcripts, annotated by field notes, were analyzed to identify and compare themes emerging from what children said about each situation (Glesne, 2006; Strauss & Corbin, 1990), triangulated for each child across his/her four sorting outcomes. Children's themes were synthesized for each group and their views about reading and themselves as readers mapped on a Venn diagram as unique to each group and common to both groups.

The Study's Ethics and Trustworthiness

Children were invited to participate with their informed verbal assent (Harcourt & Conroy, 2009) as well as their parents/legal guardians' informed written consent, with children's agreement continuing to be monitored throughout the study – important considerations for ensuring children have voice about whether or not they wish to participate. This study ensured that children's participation was voluntary, respectful, relevant, inclusive, child-friendly, safe and sensitive to risk, meaningful and informed with shared understanding of purpose, process and outcomes (Lansdown, 2011).

As a constructivist study, trustworthiness was established by measures addressing credibility, dependability, confirmability and transferability as explained in Fig. 2.2 (after Guba & Lincoln, 1985; Lincoln et al., 2011).

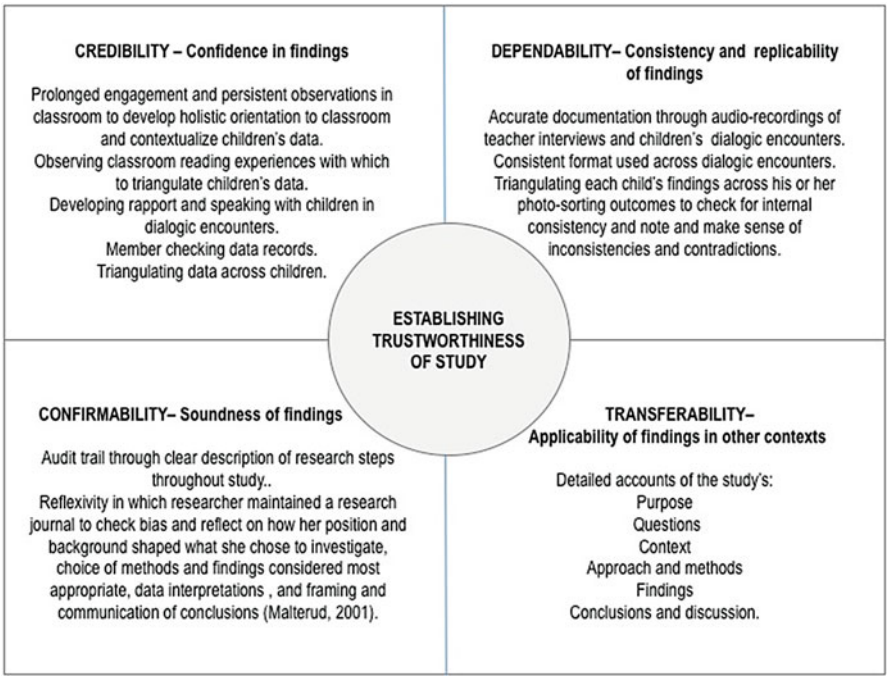

Fig. 2.2 Measures for establishing study's trustworthiness (After Guba & Lincoln, 1985; Lincoln et al., 2011)

Findings

Children's Views of Reading and Themselves as Readers

Regarding the research question that examined children's views of reading and their participation, efficacy and wellbeing as readers at school, YG children expressed meaning-based understandings of reading, with meaning and code coming together: *'Reading is seeing what the words say so you know what the story's about'* and *'Reading is looking at words and seeing what they say.'*

Talking about how they decode text, these children described their skills repertoires: word recognition, '*I look at the words and I see what the story's all about'* and *'I look at words so I know what they say'*; sounding out words, *'I sound the word out if I'm not sure'*; using context clues, *'If I don't know a word, I go back to the beginning and read it again'*; and combining strategies, *'I see what the word says, I sound out the letters, and if I don't know I go back and see what the story's about.'*

YG children identified an array of classroom reading such as reading texts, including levelled readers and non-instructional texts such as literary texts and factual texts; reading classroom wall print; reading alone; and reading with peers, their teacher or a parent helper. They did not mention their reading-related instructional

activities such as reading workbooks and games and decoding lessons, indicating these children's distinction between reading and reading instruction. This is not to say these children did not connect instruction to reading, as later findings reveal.

GG children struggled to talk about reading *per se*, with five not able to answer this question (e.g., *'I don't know what reading is'*) and another relating reading to learning to read: *'Reading is when you learn to read. You start at Kindergarten and the books get harder.'*

Talking about how they decode text, some GG children said they didn't know how they knew what the text said. Other children referred to sounding out words, *'I sound it out'* and asking for help, *'If I don't know a word, I ask someone to tell me,' 'I ask the teacher'* and *'Tell a friend.'* Exploring what they do if no-one was available, one child replied, *'Then there's nothing else you can do'*, another child answered, *'I don't know any other way'* and four children made no comment.

Asking GG children to tell me about reading they do in their classroom, they all said they did not know. Changing focus to 'reading activities in classroom', children equated such activities with individual and small group instructional activities: reading games; reading levelled readers aloud to the teacher individually and in their reading groups; and doing reading workbooks. These children did not refer to silent reading and reading with their peers, indicating they did not relate reading to situations where reading occurred without instructional activities.

In terms of the ways children's views are similar or different from the standpoint of their group membership, the above account reveals clear differences between

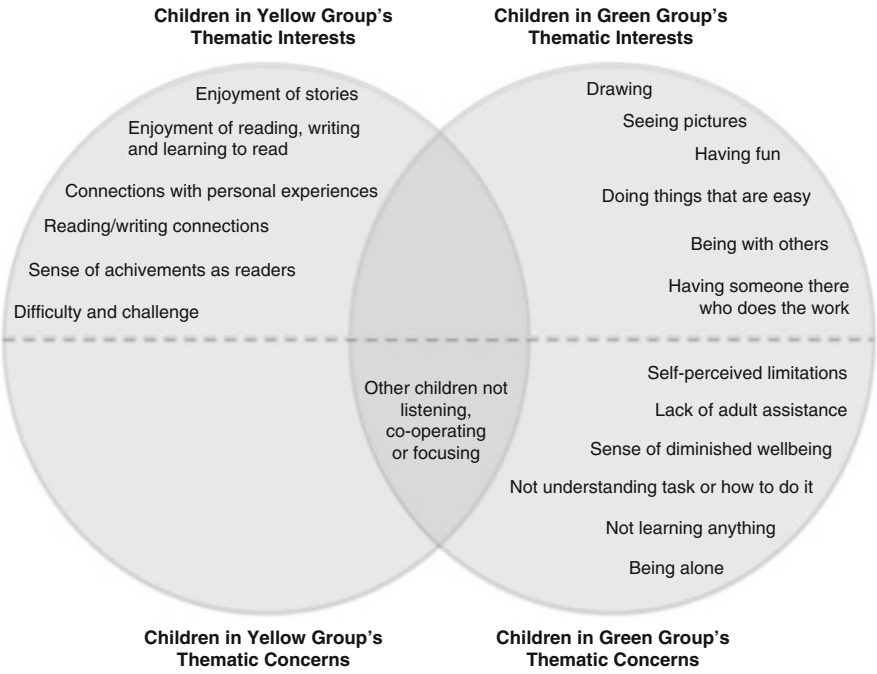

Fig. 2.3 Overview of children's themes

how YG and GG children portrayed reading, what they do as readers, and reading at school. These differences between the groups are further illuminated by children's views about their classroom reading situations, explored next.

Children's Views of Their Classroom Reading Situations

These findings in this section focus on the research questions examining children's views of their classroom reading experiences and ways children's views are similar or different from the standpoint of their differentiated reading groups? Of all 180 photo-sorting outcomes, 80 % (n = 144) of YG children's responses associated their classroom reading situations with 'happy times', 'things they like', 'things they're good at', 'times they're not bored' and 'easy work'. A considerably smaller 56 % (n = 102) of GG children's responses made similar associations. Themes that emerged from the photo-sorting are summarized in Fig. 2.3. These themes and numeric trends are explored and compared below for each situation.

Teacher Giving a Reading Lesson to a Class, with a Focus on Phonics

The decoding lesson saw quite similar outcomes for YG and GG children. All or most children from both groups felt happy and liked what they did in this situation. There was parity between the groups for 'easy/hard work' and 'bored/not bored' sorts. However, all YG and only three GG children reported they were good at doing such lessons.

Reporting they were 'good at' phonics, YG children described phonics as *'fun'* and *'easy to do'* and associated their enjoyment with their sense of reader achievement, *'I like doing the alphabet and that's why I'm good at reading'*. YG children linked phonics lessons with learning to read:

- *'It lets someone learn sounds and words so he can read.'*
- *'That's what the teacher tells you to learn, and I learn those words and then I can read them on my own.'*
- *'I can look and join some words together, because I know lots of words.'*
- *'You learn the words when the teacher gives you this kind of lesson.'*

Four YG children construed phonics lessons as '*easy work*' and all six children described themselves as '*good at*' phonics. YG children related phonics lessons to reading and learning; as one child said, *'It's hard work because I have to say the letters, the teacher tells me to sound the letters, and that way I can learn more words.'*

Three GG children reported they were 'good at' phonics and related decoding lessons to writing and drawing activities, for example, *'we can draw pictures'* and *'I like writing'*. One child, seeing the photo's illustrated tree, explained he felt happy in this situation because *'I learn things, like I learn about trees.'* Pursuing these

perspectives to check children understood the photo, they still struggled to express what such lessons were about. One child talked about what the teacher was doing, and felt good in this situation because *'I like that the teacher is doing the work'*, disconnecting what the teacher was doing from their own participation.

Consistent with this finding, five GG children construed phonics lessons as '*easy work*', equating this experience with drawing and writing that they enjoyed along with seeing the teacher doing the work. Two children talked about getting distracted, *'If I don't watch and talk to somebody, I won't know what to do'* and *'Sometimes I'm not looking, I'm looking out the window with birds out there.'*

Child Reading with Another Child

YG and GG children reported quite similarly about feeling happy when reading with a peer, liking this activity and finding it to be easy work. While all YG children reported being good at this activity and were not bored by it, only three GG children reported likewise.

Most YG children viewed this situation positively, saying they *'like reading', 'I'm good at reading'* and '*Believe me, I'm a good reader!'* YG children viewing this situation negatively were concerned other children did not always listen or co-operate, *'The other person mucks around'* and '*There might be too much noise and you can't hear properly'*.

GG children were ambivalent about a child reading with another child. While all but one child said they '*feel happy*' in this situation, mixed responses emerged in their talk about other sorting criteria, expressing concerns about their reading abilities and absence of adult assistance, *'I can't read well', 'The words are too hard'*, *'I don't learn here'* and *'I don't get help.'*

Child Silently Reading Alone

A child reading alone saw greatest difference between the groups. While half of each group described this situation as involving easy work and the other half hard work, reverse or near-reverse trends between YG and GG emerged for the other sorts; five YG children explained they felt happy in this situation, while five GG children reported they felt sad.

YG children viewed this situation positively for all sorts except 'easy/hard work'. Three YG children described reading alone as '*easy work'* and three as '*hard work'*. Presence or absence of hard work did not deter these children from this situation. Indeed, they offered hard work as a reason for favourably viewing this situation, saying, for example, *'Reading is a very hard thing to do…you look at the words to know what they say, and then you can enjoy what you're reading'*.

GG children viewed reading alone quite negatively, related to their sense of themselves as struggling readers also reflected when they talked about reading with another child, *'I get stuck on words', 'You can't find out what the words are', 'I can't*

read sometimes' and *'It's hard work.'* These children also spoke about poor wellbeing when reading alone in the classroom, *'I get cold', 'I get tired here', 'I get sore'* and *'I get headaches.'*

Teacher Reading to the Class

A teacher reading to the class saw parity between YG and GG children's sorts for times they felt happy, were doing something they liked, and found the work to be easy. Four YG children and two GG children associated this situation with something they were good at. While all YG children said they were not bored here, four GG children said they were bored.

YG children favourably viewed a teacher reading to the class because they enjoyed listening to stories. As one child noted, '*Teachers always have good stories'* and *'Teachers like to read books to us kids'*. Any concerns stemmed from disruptive class members. As one child put it, '*some kids muck around and you can't hear'*. Another explained, *'Some children mess up but they shouldn't. It helps you read, like if you are reading the book that time, that word might go into your head and if you see that word on a book, you can know what it is.'*

GG children also reported enjoying listening to their teacher read to the class. They also expressed relief from not having to read or perform themselves:

- *'You just sit there and look and listen to the teacher'*
- *'You don't have to do anything'*
- *'The teacher teaches us and lets us have a rest'*
- *'Reading is the teacher's business'*.

GG children's concerns stemmed from uncooperative class members, *'Some kids muck around and you can't hear'*.

Child Completing a Reading Worksheet

A child doing a reading worksheet evoked quite similar associations for both YG and GG children, finding this situation to involve easy work and things they were good at doing. More marked differences emerged for the other distinctions; four YG children associated this situation with happy times whereas four GG children related the same situation to sad times.

YG children regarded reading worksheets well, connecting them with their reading and writing. One child commented, *'I like writing here. I can write a story about the holidays or when I went to Uncle Pete's toy shop, or when I went to the zoo and fed the dolphins.'* Another child noted, *'It helps me learn to read because I write words. Sometimes I might not know what to write and then I remember, and then I know that word.'*

GG children favourably viewing worksheets commented again on enjoying and being at ease with drawing and writing, volunteering no apparent connections with

reading. Their concerns with reading worksheets echoed their concerns about reading alone, *'I don't know how to do it'* and *'I don't remember what to do'*. These children also reported doing worksheets *'is hard work'* and did not connect this work to learning. As one child said, *'You don't learn anything'*. Children also commented on their wellbeing when doing worksheets, *'I get sore and tired'* and *'I get headaches'*.

Children Doing a Classroom Reading Game

Children's photo-sorting for the reading game revealed similarities between YG and GG children for easy work and things they liked and felt they were good at doing. Four YG children felt happy here whereas three GG children felt sad. While five YG children associated reading games with a time they were not bored, three GG children reported they were bored.

Most YG children were positive about this situation across all sorting criteria. Their reasons related to reading, *'I like reading'* and *'You learn things, like how to read'*. Some YG children disliked reading games because they were *'too easy'* and *'boring'*. This finding confirms earlier findings that hard work is not a deterrent for these children, and often a reason for enjoying their classroom reading situations.

Most GG children felt they were *'good at'* reading games because *'games are easy to do'*, '*you can play here'* and *'the words are fun'*. Four children said they *'like doing'* reading games, one child was unsure and another did not like reading games, saying *'I get hot then*.' Three children found games *'boring'* when alone. Two reported feeling '*happy'* while three said they feel '*sad'* in this situation, with one child unsure. None connected reading games with reading.

Summary of Key Findings

In this study, the teacher's instructional decisions created two very different reading worlds for YG and GG children; affording YG children a balanced approach across reading practices and limiting GG children to a focus on decoding practices. In these reading worlds, children expressed a range of views about reading, themselves as readers and their classroom reading situations.

From these children's voices, what may be concluded about their reading habitus? That is, how were children coming to define reading and themselves as readers at school? YG children defined themselves as competent readers, construing reading as meaningful, effortful, enjoyable practice. They described reading as making meaning and connected decoding with meaning and purpose, seeing code as a means to accessing meaning, not as an end unto itself. They talked comprehensively about the full range of their classroom reading and enjoyed and interconnected their

reading, writing, classroom texts and instructional experiences. They expressed a positive sense of their participation, wellbeing and efficacy as readers at school.

YG children saw themselves active as text users, participants and decoders in their classroom situations. YG children valued and exerted effort in these roles and found meaning and relevance in their engagement. They integrated their decoding skills with meaning and purpose, evidenced in how they talked about reading, their skills repertoires and connections between decoding lessons and reading. They spoke about how such connections enabled them to deal with 'hard work' in whole class, small group and independent situations.

Aware of their reader efficacy, YG children perceived hard work as an enabler for enjoying and engaging with classroom reading experiences. YG children could find easy work off-putting, finding little scope and purpose for exercising their agency. YG children's over-riding concern involved social issues– other children not listening, co-operating or focusing on the task at hand, disturbing YG children's participation and wellbeing.

GG children defined and projected themselves as struggling readers dependent on others in their classroom reading world. They could not talk about reading *per se* and expressed low self-efficacy as readers. They talked about difficulties with learning and connecting their instructional experiences with reading. Contrasting with YG but resonant with the experiences they were afforded, GG children demonstrated and talked about sounding out words to unlock text, but could not explain what else to do apart from seeking help. Not seeing themselves as readers, their sense of reading was overwhelmed by their sense of struggle and disengagement in independent situations. Unsurprisingly then, these children could not say what reading they did in their classroom as they did not associate their reading activities with reading *per se.*

GG children did not see themselves as text participants, users and analysts in their classroom and struggled as decoders of written texts. They recast reading practices, especially decoding, as drawing, looking at pictures, being with friends, and staring out the window. They did not see reading practices as engaging with learning about words, letters and sounds. Having fun, doing easy things, being with others and having someone helping and doing the work all contributed to their sense of favorable wellbeing and participation. GG children enjoyed and engaged with visual texts, although visual texts were not weighted in their own right. Rather, visual texts were used as accompaniments in decoding exercises, basal readers and other kinds of texts.

Social issues were a concern for GG children, focusing on children being disruptive and disturbing other children, the only theme common to both groups. This concern undermined GG children's sense of wellbeing, efficacy and participation. However, reading and doing tasks alone or in situations where more was expected of children as readers, were not necessarily positive experiences for GG children. In such situations, their concerns related to diminished wellbeing, physical discomfort and abandonment without help with tasks they could not understand or perform.

Varying support levels in this study's classroom reading situations were available to YG and GG children across whole class, small group, paired and one-to-one situations. Value of providing such balance is well supported in the literature (Allington, 2005). However, while YG children expressed positive participation, efficacy and wellbeing across all situation types, GG children found independent situations less conducive. Scaffolding emerged as a particular need for GG children for whom absence of helpful people, combined with being locked into one way of decoding texts, was a problem they expressed. For all the children but especially GG children, the 'who' as well as the 'what' of reading instruction mattered to their sense of participation, efficacy and wellbeing and how they were coming to define themselves as readers at school.

Clearly YG and GG children were constructing very different definitions of reading and themselves as readers at school as regards their participation, efficacy and wellbeing. These differences aligned with their differentiated reading experiences and provoke reflection on unintended consequences of instructional choices informed by how young readers are assessed and labelled (e.g., 'poor', 'good', 'low ability', 'high ability'). These consequences need to be understood vis-à-vis encouraging, confirming and perpetuating children's reading habitus.

Discussion

Recalling habitus is defined as 'a durable, transposable system of definitions of themselves and their world' shaped by experiences children habitually encounter (Bourdieu, 1992, p. 134), considering children's views is significant for honouring their right to have voice and for understanding how their reading habitus is shaped by their daily classroom reading situations.

How children are judged as readers determines their experiences and affordances for becoming engaged readers who feel good about their wellbeing and efficacy at school. This study's children constructed as poor readers were not afforded similar scope as higher-achieving peers to engage in meaningful reading. This is a reality reported many years ago in an article called 'Poor readers don't get to read much in reading groups' (Allington, 1980) and confirmed more recently as current policy impacts on early readers' instructional opportunities at school (Allington, 2009).

What particularly needs to be understood here is the impact of such instructional choices on perpetuating 'poor' readers' habitus regarding low self-efficacy, wellbeing and participation. While low self-efficacy is associated with poor readers (McCabe & Margolis, 2001), GG children were not necessarily poor readers. They were *beginning* readers with quite small discrepancies if any between their chronological ages and Neale reading ages. GG children's views suggest their instructional experiences may have exacerbated rather than alleviated their sense of incompetence and discomfort as readers. However, such a conclusion is speculative at best

without investigating children's perspectives of alternative approaches that might strengthen their sense of participation, efficacy and wellbeing.

Understanding consequences of instructional choice needs to be informed by children's voices, to move beyond labels to develop relationships with children as people, as competent participants and key informants whose views are rightfully considered in instructional decisions impacting their lives and learning. This study's children's voices disrupt some assumptions about what constitutes best or necessary practice for young or poor readers; and shed light on how children see relevance and application of particular approaches.

How and when, for example, children need explicit decoding instruction such as phonics, is a key issue emerging from this study. Informed by these children's voices and triangulated with the research literature, phonics instruction has its place when there is clear need and occurs under conditions applicable to instruction more generally. That is, connections are fostered with other reading knowledge and skills; children are actively involved with orchestrating and applying skills to meaningful and enjoyable texts in purposeful contexts supporting their learning and engagement; and such instruction leads to new knowledge and skills (Allington, 2005, 2009, 2012; Freebody, 2007; Hall, 2013; Pearson, 2007).

Moreover from a rights-based perspective, incorporating children's voices as embedded practice needs to inform instructional choices and be part of broad assessment procedures. How assessment is constructed defines reading, the reader and indeed the child, and needs to be broad enough to assess children's literacy resources in their entirety. For example, GG children's dispositions towards visual texts were a resource to be capitalized on in a multiliteracies approach to reading, thereby acknowledging multimodal texts in children's lives and particular resources children bring. Multiliteracies approaches as conceptualized by Exley and Luke (2010), for example, are situated in children's life worlds, foreground inquiry and are present- and future-oriented in embracing textual and lived diversity. Giving children voice is inherent in these or other approaches addressing real audiences for real purposes, resulting in transformed literacy practices and transformed literacy learners whose right to have voice in their class literacy programs is upheld.

Honoring Article 12 to understand and act on children's voices, this study's children's voices inform decisions about reading and literacy policy and practice in several ways discussed above, but there is more research to be done. The issues raised by this small-scale study warrant further rights-based inquiry through authentic dialogue with children, including larger samples and a wider range of classroom situations and school settings. The photo-sorting activity is a worthy addition to the growing repertoire of strategies for such study, effectively mediating conversations and lending itself to adaptations of photos and sorting criteria.

Further inquiry lines include:

– Children's views of what supports their wellbeing, efficacy and participation as readers and literacy learners at school.

- Children's voices and perspectives across a range of instructional approaches to early years reading and literacy more generally, and their consequences for children's sense of their wellbeing, efficacy and participation.
- Intended and unintended consequences of what is provided in early years literacy programs, including implications of instructional choices and differentiation for children's literacy participation, efficacy and wellbeing.
- Teachers' knowledge, skills and dispositions for engaging with children's voices as embedded classroom practice.
- Implications of relationships between children's home and school literacy experiences for their evolving literacy habitus.
- Ways for teachers to engage with children's voices as embedded practice in class programs.
- New possibilities for children's literacy when their voices are embedded in practice.

This study was driven by moral and pedagogic imperatives to engage with children's voices about their reading education at school; a highly significant matter in children's present and future lives. Supported in authentic dialogic encounters, children articulated their sense of participation, wellbeing and efficacy about what might be construed an abstract topic. Reading is anything but abstract, however, when authentically talked about as lived experience.

Intended to generate dialogue and research about authentic engagement with children's voices in literacy education, this chapter concludes with a challenge that warrants substantial investigation. That is, how a systematic presence of children's voices in research, policy and practice might be established. How voices endowed with authenticity, incorporated into how reading and literacy are theorised and researched, considered in policy development, and engaged in embedded practice in early years educational settings. It behoves us all to consider and strengthen this presence in our national and global contexts.

Endnote

1. Article 12 of the UN Convention on the Rights of the Child, 1989. http://www.ohchr.org/en/professionalinterest/pages/crc.aspx Retrieved 7th March 2014

References

Allington, R. L. (1980). Poor readers don't get to read much in their reading groups. *Language Arts, 57*(8), 872–876.

Allington, R. L. (2005). *Five missing pillars of scientific reading instruction*. Retrieved June 2011, from http://www.readingrecovery.org/pdf/conferences/NC07/Handouts/Allington_Five_Missing_Pillars.pdf

Allington, R. L. (2009). If they don't read much … 30 years later. In E. H. Hiebert (Ed.), *Reading more, reading better* (pp. 33–54). New York: Guilford Press.
Allington, R. L. (2012). Every child, every day. *Reading: The Core Skill, 69*(6), 10–15.
Bloome, D., Katz, L., Hong, H., Woods, P. M., & Wilson, M. (2013). Methodologies in research on young children and literacy. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (pp. 605–632). London: Sage.
Bourdieu, P., & Passeron, J. C. (1990). *Reproduction in education, society and culture* (Nice & Richard, Trans.). London: Sage.
Bourdieu, P., with Waguant, L. J. D. (1992). *An invitation to reflexive sociology.* Chicago, IL: Chicago University Press.
Certo, J., Moxley, K., Reffitt, K., & Miller, J. A. (2010). 'I learned how to talk about a book': Children's perceptions of literature circles across grade and ability levels. *Literacy Research and Instruction, 49*(3), 243–263.
Clark, A., Kjorholt, A. T. & Moss, P. (Eds.). (2005). *Beyond listening: Children's perspectives on early childhood services.* Bristol, UK: The Policy Press.
Cope, B., & Kalantzis, M. (2013). 'Multiliteracies': New literacies, new learning. In M. R. Hawkins (Ed.), *Framing languages and literacies: Socially situated views and perspectives* (pp. 105–135). New York: Routledge.
Delpit, L. (2003). Educators as 'seed people' growing a new future. *Educational Researcher, 32*(7), 14–21.
DEST. (2005). *Teaching reading: report and recommendations.* National Inquiry into the Teaching of Literacy, December, 2005. Canberra, Australia: Department of Education, Science and Training (DEST).
Exley, B., & Luke, A. (2010). Uncritical framing: Lesson & knowledge structure in school science. In D. Cole (Ed.), *Handbook of research on multiliteracies & technology enhanced education*. London: Routledge.
Freebody, P. (2007). *Literacy education in school: Research perspectives from the past, for the future*. Retrieved from http://www.acer.edu.au/documents/AER52.pdf
Freire, P. (2000). *Pedagogy of the oppressed* (30th Anniversary edn.). New York: Continuum International Publishing Group.
Glesne, C. (2006). *Becoming qualitative researchers: An introduction*. Boston, MA: Pearson.
Guba, E. G., & Lincoln, Y. S. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
Hall, K. (2013). Effective literacy teaching in the early years of school. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (pp. 523–540). London: Sage.
Halliday, M. A. K. (1978). *Language as a social semiotic: The social interpretation of language and meaning*. London: Edward Arnold.
Hancock, R., & Mansfield, M. (2002). The literacy hour: A case for listening to children. *The Curriculum Journal, 13*(2), 183–200.
Harcourt, D., & Conroy, H. (2009). Informed agreement to participate. *Early Childhood Development & Care, 179*(2), 157–165.
Harrett, J., & Benjamin, T. (2005). What is a real story? Investigating the perceptions of key stage One children. *Early Years, 25*(1), 31–42.
Harris, P. (2015). 'Words and stuff': Exploring children's perspectives of classroom reading in the early school years. *Australian Journal of Language and Literacy, 38*(1), 27–37.
Harris, P., & Manatakis, H. (2013). *Children as citizens: Engaging with the child's voice in educational settings*. London: Routledge.
Harris, P., Turbill, J., Fitzsimmons, P., & McKenzie, B. (2006). *Reading in the primary school years*. Melbourne, Australia: Thomson.
Harris, P., Turbill, J., Kervin, L., & Harden-Thew, K. (2010). Mapping the archive: An examination of research reported in AJLL 2000–2005. *Australian Journal of Language and Literacy, 33*(3), 173–196.

Lansdown, G. (2011). *A framework for monitoring & evaluating children's participation*, Save the Children, UNICEF, Plan, World Vision. Retrieved March 18, 2013 from: http://resourcecentre.savethechildren.se/library/framework-monitoring-and-evaluating-childrens-participation-preparatory-draft-piloting

Lever-Chain, J. (2008). Turning boys off? Listening to what five-year-olds say about reading. *Literacy, 42*(2), 83–91.

Levy, R. (2008). 'Third spaces' are interesting places: Applying 'third space theory' to nursery-aged children's constructions of themselves as readers. *Journal of Early Childhood Literacy, 8*(1), 43–66.

Levy, R. (2009). Children's perceptions of reading and the use of reading scheme texts. *Cambridge Journal of Education, 39*(3), 361–377.

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *SAGE handbook of qualitative research* (4th ed., pp. 97–128). Thousand Oaks, CA: Sage.

Luke, A. (2004). On the material consequences of literacy. *Language and Education, 18*(4), 331–335.

Luke, A., & Freebody, P. (1990). Literacies programs: Debates & demands in cultural context. *Prospect, 5*(7), 7–16.

Mac Naughton, G., Hughes, P., & Smith, K (eds.). (2008). *Young children as active citizens*. Newcastle, UK: Cambridge Scholars Publishing.

Mayall, B. (2002). *Towards a sociology for childhood: Thinking from children's lives*. Buckingham, UK: Open University Press.

McCabe, P., & Margolis, H. (2001). Enhancing the self-efficacy of struggling readers. *The Clearing House, 75*(1), 45–49.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (National Institute of Health Pub. No 00–4769). Washington, DC: National Institute of Child Health and Human Development.

Neale, M. D. (1999). *Neale analysis of reading ability* (3rd ed.). Camberwell, Australia: ACER Press.

Orellana, M., & Peer, K. (2013). Methodologies of early childhood research. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (pp. 633–652). London: Sage.

Pahl, K., & Allan, C. (2011). 'I don't know what literacy is': Uncovering hidden literacies in a community library using ecological and participatory research methodologies with children. *Journal of Early Childhood Literacy, 11*(2), 190–213.

Pearson, P. D. (2007). An endangered species act for literacy education. *Journal of Literacy Research, 39*(2), 145–162.

Percy-Smith, B., & Thomas, N. (Eds.). (2009). *Handbook of children & young people's participation*. London: Routledge.

Sommer, D., Samuelsson, I. P., & Hundeide, K. (2010). *Child perspectives & children's perspectives in theory and practice*. London: Springer.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research – grounded theory procedures and techniques*. Newbury Park, CA: Sage.

Thomson, P. (2000). *Neighbourhood schools and the New poverty: Educational dis/advantage in changing times and places*. Sydney, Australia: Allen & Unwin.

UN Convention on the Rights of the Child. (1989). Retrieved February 23, 2012, From http://www2.ohchr.org/english/law/crc.htm

Vygotsky, L. (1978). *Mind in society*. Harvard, MA: Cambridge University Press.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage Publications.

Chapter 3
Linguistic Diversity and Literacy Practices in Early Childhood Education in Norway

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Abstract Diversity of all kinds has increased in Western societies as a result of global migration, bringing both opportunities and challenges to educational settings. This chapter focuses on how linguistic diversity is reflected in language and literacy practices in early childhood education in Norway, an educational context which traditionally is characterized by informal learning. In recent years, educational policy, however, has stressed the importance of kindergarten attendance as an important preparation for meeting Norwegian as the main school language. The chapter starts out with a description of the socio-political level including laws, regulations and curriculum concerning bilingualism and literacy. Furthermore, it draws on an analysis from a case study of kindergarten teachers' second language teaching practices and beliefs, documented through observations and interviews. The analysis demonstrates how informal teaching practices in activities like picture book reading and play create opportunities for more complex and challenging second language and multilingual literacy experiences.

Introduction

Since the 1990s both educational policy and migration patterns have brought significant changes to early childhood education (kindergarten)[1] in Norway. In 1993 the official number of children with linguistic minority background who attended kindergarten was 6 800 (NOU, 1995). Twenty years later the number is 41 000, that is 14 % of all children in kindergarten. In 2002 the Norwegian Parliament made the municipalities responsible to ensure full coverage of kindergarten. At the time around 60 % of children between one and five years of age were offered part-time or full-time places. Today 90 % in this age group attend kindergarten, most often full-time. The proportion of children from families with immigrant background is

[1] In the Norwegian context, as well as in this article, 'kindergarten' is used with the meaning 'early childhood education institutions for children below school age (i.e. children 0–5 years)'.

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also increasing, the latest figures showing 75 % attendance (Statistics Norway, 2015). Although the latest White paper on integration policy (Ministry of Children & Equality and Social Inclusion, 2012) promotes linguistic and cultural diversity as a resource, kindergartens are primarily seen as an important context for learning Norwegian. The kindergarten teachers are supposed to "work actively" to promote Norwegian language skills, and in addition "support" emergent bilinguals in their use of their first language (Ministry of Education and Research, 2011).

In 1997 the school age was reduced from 7 to 6 years of age. This was part of an educational reform which also changed the ways the Norwegian educational system arranged for literacy learning. Traditionally learning to read and write was supposed to start when children entered school. Kindergartens should concentrate on care, upbringing, oral language learning and play. Play should however not include playing with letters. The growing number of studies of emerging literacy (e.g. Adams, 1990; Bissex, 1980; Clay, 1982) were at first not very well known in Norway. Around 1990 however, two national research projects received broad attention by kindergarten teachers, researchers, and politicians. Both projects explored playful approaches to stimulate the development of reading and writing before entering school (Hagtvedt, 1988; Lorentzen, 1991). These projects contributed to a change in educational policy. The change was officially marked by the introduction of the first Framework Plan for the Content and Tasks of Kindergarten (Ministry of Children and Family Affairs, 1995). The framework stated that learning to read and write should be seen as a longitudinal process which starts long before the formal introduction in school. From then on children are supposed to meet written language in a variety of situations in kindergarten, as well as being encouraged to play with letters, numbers and written texts. A few years later, when the 6 year olds were enrolled in schools, changes also were made to the school curriculum. The school beginners were met with a more playful approach to learning to read and write, which should stimulate literacy learning as an emerging process (Ministry of Education, Research and Church Affairs, 1999).

Today kindergartens are seen as an important part of the educational system, guided by a national framework for pedagogical content with a stronger focus on learning (Ministry of Education and Research, 2011). Nevertheless, there are still clearly differences between pedagogical work in school and kindergarten. Along a scale of incidental, contextualized language learning versus learning through direct instruction, Norwegian kindergartens traditionally are considered close to the incidental end of the scale (Aukrust, 2007, p. 21). The politicians of today show an increasingly interest in what is going on in kindergartens; they look at different ways of quality assurance, introduce mandatory assessment of language skills and put more emphasis on school preparation activities. More emphasis is put on the learning of Norwegian, but also on mathematics, and in some municipalities, also on the learning of English. When the Ministry of Education and Research in 2015 launched a strategy on language, reading and writing, collaboration between kindergarten and schools was promoted as part of the strategy. Due to low scores on reading tests, the strategy puts a special focus on linguistic minority children. Strengthening their oral language competence when entering school is one clear aim. In this way

the quality of the kindergarten teacher's work on language development is being explicitly connected to later literacy development and will be an important focus in implementing the strategy (Lesesenteret, 2015).

National surveys of current practices in Norwegian kindergartens (Andersen et al., 2011; Østrem et al., 2009) show that the most frequently reported activities in work on language development are songs, rhymes and jingles. Most kindergarten teachers in the study by Andersen et al. agreed that working with minority children's language development should be of a different kind than first language pedagogy. To facilitate second language learning the kindergarten teachers considered meal time conversations as particularly important situations, followed by the reading of books, sharing time, and adapted organized activities. First languages other than Norwegian were however seldom used. The kindergarten teachers taking part in the survey reported need for competence development to meet the rather new challenges of working with multilingual children.

Following up the White Paper from 2012, a national supplementary education of teachers now is being implemented (The Norwegian Directorate for Education and Training, 2013). The latest teacher education reform also puts more emphasis on second language acquisition and multilingualism (Ministry of Education and Research, 2012). In this situation there is a strong need for research based knowledge on how kindergartens meet diversity and develop their practices, both in their general work in more informal settings and in more formal learning situations. In this article we will explore some of the issues and complexities in educational settings that involve pedagogical work with emergent bilingual children and their early literacy development. We will concentrate on the more informal learning situations which traditionally have characterized kindergarten and at the same time are considered to be of significance for early literacy development; different forms of play situations and picture book reading (e.g. Lawrence & Snow, 2011), but also on ways to support multilingual curiosity. We draw upon examples from a PhD dissertation on how Norwegian kindergarten teachers promote language and literacy development in their work with 4 and 5 year olds learning Norwegian as a second language (Alstad, 2013, 2016).

Theoretical Framework

Two theoretical concepts have inspired our work: Catherine Wallace's "literacy as talk" (2013) and Jim Cummins and Margaret Early's "identity texts" (2011). A sociocultural approach to literacy learning and literacy practices is underlying both of these works.

In the now classical definition of literacy practices Barton and Hamilton (1998) state that practices are social and "inferred from events which are mediated by written texts" (p. 8). Discussing literacy and the bilingual learner Wallace (2013) stresses the importance of bringing not only the text, but also *language* into what she describes as a "sharper focus, as a necessary mediating factor in literacy practices" (p. 15).

Wallace uses the concept "literacy as talk", and writes: "Talk supports and surrounds reading and writing especially for early learners" (p. 22). Building on Gibbons (2002) and Cummins (2000) she emphasizes the role teachers have to "scaffold learners toward talk which is more like writing" (p. 22). While Wallace is concerned with learning in school children, her approach is also applicable to emergent bilingual kindergarten children who need to develop their second language before entering a school where they will meet formal learning and written texts in the second language, as is the case in Norway.

Oral communication involving kindergarten children is prototypically characterized by personalized contextualized dialogues ("you and me", "here and now"), written texts are prototypically characterized as decontextualized monologues which require a more explicitly use of languages with more abstracts, more reasoning and more explanations (Axelsson & Magnusson, 2012). Lawrence and Snow (2011) look into the relevance of oral discourse to literacy outcome. In discussing the importance of oral discourse in the preschool years as a preparation for literacy, they use the term "extended discourse" as: "a composite made up of several specific oral discourse genres: engaging in pretend-play talk during toy play, discussing information that went beyond that present in text or pictures during book-reading, and participation of narratives and explanations during dinner table conversations" (p. 323–324). According to the research project *Beginning Literacy with Language* (Dickinson & Tabors, 2001) exposure to extended dialogue in the home predicted later results on reading tests. Working with activities in which oral language is used in ways that resembles the modus of written language (or actually is written language read aloud) might serve as bridges to written texts. Thus they are important parts of "literacy as talk" in kindergarten. The case study from the Norwegian kindergartens will give examples of activities in which the kindergarten teacher give extra support to linguistic minority students when she tries to engage them in situations of extended discourse in Norwegian.

Cummins and Early's (2011) work on identity texts and their pedagogies of choices in multilingual classrooms are also theoretical inspirations for work in contexts like the one we find in many Norwegian kindergartens where the kindergarten teachers themselves do not speak or understand all the different first languages spoken by the children, and where the politicians emphasise the learning of Norwegian. Cummins and Early explore literacy learning in precisely such an educational setting where monolingualism is the norm decided by the politicians, while at the same time a growing number of children are multilingual. Although the educational systems in themselves do not stimulate multilingualism, the point made by Cummins and Early is that the teachers are possible powerful agents of change. By articulating and reflecting critically on the choices they make on a "routinely daily basis" (p. 155) and by examining alternative possibilities, teachers lay the foundation of a pedagogy of choice in which the creation of identity texts is one component. Text is understood as multimodal and as a product of children's creative work or performances. The use of the term identity texts "articulates a'counter discourse' to the implicit devaluation of students' abilities, languages, cultures, and identities that occurs in classrooms where students' preferred ways of meaning making and home

languages are ignored or treated with 'benign neglect'" (p. 4). We will return to these perspectives when we discuss the examples from kindergarten stimulating multilingual curiosity.

The Study

The examples to be discussed in this chapter are from Alstad's exploratory multiple-case study which seeks to qualitatively document the views, language use, strategies and practices of three Norwegian kindergarten teachers (Alstad, 2013, 2016). The kindergarten teachers work in three different public, mainstream kindergartens, purposively sampled on the basis of local authorities' recommendations of experienced teachers (Cohen, Morrison, & Manion, 2007, p. 114). The data collection methods included three semi-structured interviews with each teacher, and observations of language and literacy events. The interviews focused on the teachers' conceptions of second language teaching in general and their own practices in particular. The teachers were asked to provide examples of what they considered good language teaching and to comment on why they had used a particular strategy or activity. The observations provided data about literacy and language events in teacher-child interactions. The observations were video-recorded during a period of 4–10 weeks including both informal settings like play and lunch time and more formal settings like circle time. The teachers were asked to comment on these events immediately afterwards. The events together with the teacher's reflections identified the practices of the teachers.

As typical for case studies, an abductive analytical approach was used (Alvesson & Sköldberg, 2008, p. 55), exploring and alternating theoretical insights and empirical transcribed data. Analysing the data involved alternation between the transcribed interactions and interviews, in order to shed light on the many facets on second language teaching, investigating in particular the language use and what kind of support provided in the interactions (e.g., visual support, linguistic support, artefacts) and the teachers' rationale for providing different kinds of support in the particular events.

The three teachers had over 10 years of experience and were sincerely engaged in second language teaching. This chapter focuses one of the teachers, called Heidi. In her group of 16 children aged 3–5 years, there were four second language learners. Heidi holds a bachelor degree in early childhood education. She neither speaks the second language learners' home languages herself, nor does she have access to bilingual colleagues or assistants. The observed interactions between Heidi and the children took place in Norwegian, the children's second language, sometimes with the use of words, phrases and songs from other languages. For this chapter, we have made a rough translation of the relevant extracts to English.

The four activities discussed in the following – drama play, picture book reading, socio-dramatic play and metalinguistic conversation are activities that were represented in the data and at the same time, important topics in developing language

and literacy practices for emergent bilinguals. The examples also highlight activities that the teacher refers to as examples of good language teaching practices in early childhood education.

Drama Play and Learning Vocabulary in Context

Drama play was frequently used as an adapted organized activity to promote language and literacy learning in Heidi's kindergarten. In one of the videotaped situations Heidi introduced *The three Billy Goats Gruff* to a group of children, including Sara and Amal, two second language learners of Norwegian. Folk tales, like the one about the three Billy goats, are often read, told and used as a starting point for drama play in both Norwegian and Swedish kindergartens (Axelsson, 2005, 2009; Østrem et al., 2009). The activity offers several opportunities for working on literacy as talk, involving oral reading of written text and extended discourse in connection to reading and dramatizing the text.

Heidi first read the story to the children from a picture book. She then initiated a drama play and assigned different roles to the children. She used artefacts like a wooden goat, a troll and small pieces of coloured clothes to illustrate water and bridge. By using these materials, Heidi implicitly drew the children's attention to salient words. Focusing on vocabulary development is important in the development of both second languages and literacy since vocabulary knowledge and reading comprehension are closely interrelated (e.g. Pearson, Hiebert, & Kamil, 2007), and vocabulary knowledge is considered to be of special importance in second language reading (Prater, 2009; Sweet & Snow, 2002). Heidi in her work was however not only aiming at the second language learner's vocabulary development, she also emphasized the narrative competences, which also is central both for literacy development and for second language development (e.g. Axelsson, 2005).

Heidi's main strategy was to repeat the drama play several times, giving different children different roles. Sara, who was almost 4 years old and spoke Kurdish at home, had been attending kindergarten for 1 year, and Heidi worried about her Norwegian language development. Therefore she worked on helping Sara to take active part in play situations with the other children. In one of the retellings of the folk tale Sara was invited to take part by moving the goat. While Sara tramped the wooden goat over the bridge, Heidi produced the accompanying lines: "Trip, trap, trip, trap, trip, trap! Went the bridge, for the Billy goat was so heavy that the bridge creaked and groaned under him. "Who's that tramping over my bridge?" roared the troll".

Amal (5:5 years) with family background from Somalia was in her third year in kindergarten. She was a slightly more proficient second language learner than Sara, and after a while Heidi encouraged her to participate more actively linguistically,

assisting her at first in forming her lines, as can be seen from the following extract of the conversation from the fourth round the drama was played:

Teacher:	A little while after came the second Billy Goat Gruff to cross the bridge *(waits for Amal)*
Amal:	Who's trip-? *(Amal stops up)*
Teacher	Who's that ↑
Amal:	Who's that↑ *(Amal stops up)*
Teacher:	Trip- *(whispering)*
Amal:	Tripping over my bridge?

By repeating the narrative several times and changing the children's roles, Heidi carefully demonstrated the different narrative components of the story. The narrative competence involves both vocabulary knowledge, text knowledge and pragmatic knowledge, i.e. how to structure linguistic components beyond the vocabulary level. In the final version Heidi removed the materials and let the children play the roles as the three goats and the troll by themselves. The utterances in *The Three Billy Goats Gruff* is formulaic and pre-defined and therefore more accessible for the children learning Norwegian than socio-dramatic play, which is more linguistically demanding due to its improvisational character (see the example below).

In the interview Heidi stressed the importance of repeated exposure to words in different contexts. Second language vocabulary research also stresses the importance of exposure to words. Coady (1997, p. 287) for example points out that even if most vocabulary knowledge comes from meaningful language use, and even if children developing their first languages do not seem to need explicit instruction, second language users should be provided with strengthened vocabulary exposure. According to Coady there are three main principles that underlie effective vocabulary teaching. First, learners should be provided with both definitional and contextual information about the word. Second, learners should be encouraged to process information about words at a deeper level, preferably in authentic communicative activities. Finally, learners need multiple exposures to words. The kindergarten teacher in our example provides the children with contextual information and repeats the words in different contexts and within the same activity. In the interview she emphasized that playing *The Three Billy Goats Gruff* provided the second language learners with several opportunities to use and try out new words. In a study of systematic vocabulary teaching, Kulbrandstad (2008) showed how one teacher in addition to definitions and repetitions of vocabulary, provided school aged children with rich opportunities to explore vocabulary in depth. A study of second language kindergarteners in Belgium (Verhelst, 2006), demonstrates how enriched input, like repetitions and different ways of drawing attention to words, is more efficient than explicit focus on definitions for young language learners.

Picture Book Reading and Ways with Words

The importance of dialogic or interactive read a-louds to future literacy competence is well documented (e.g. Dickinson, Griffith, Golinkoff, & Hirsh-Pasek, 2012; Paratore, Cassano, & Schickedanz, 2011; Tal & Segal-Drori, 2014; Wiseman, 2011). Wiseman (2011, p. 432) describes interactive read alouds as consisting of "a teacher selecting books that meet students' interests as well as their social and developmental levels, modelling fluent reading, and encouraging students to contribute in active ways". Reading aloud while sharing picture books is extensively used in Scandinavian kindergartens (Axelsson, 2005; Østrem et al. 2009). Both Axelsson (2005) and Alstad (2013) found that the kindergarten teachers in their case studies of respectively Swedish and Norwegian kindergartens showed a particular interest in developing ways to make multilingual children active and to bring in their experiences in reading aloud sessions.

Alstad presents several examples on how the kindergarten teachers used interactive read alouds which engaged the children in extended dialogues. In the following extract this practice is demonstrated while reading *Emma Tvertimot* (Wolde, 2002), a picture book where the main character Emma refuses to go to bed. Heidi was reading the book to Amal and Julie (3:9 years), a first language speaker of Norwegian. Heidi was concerned about Amal's vocabulary development in Norwegian as well as her narrative abilities in the second language. During the reading session she tried to engage Amal by bringing in Amal's home experiences.

Teacher:	There she's hiding (.) why is she hiding? (*Turns to Amal*)
Julie:	Because she doesn't want to go to bed
Teacher:	She does <u>not</u> want to go to bed
	Are you good girls when you're going to bed?
Amal:	*Shakes her head*
Teacher:	What do you do then? (*Looks at Amal*)
Amal:	I sleep
Teacher:	Yeah so when your mother tells you or your father tells you to go to bed you're a good girl and you go brush your teeth and so on?
Amal:	Mm (*Nods*)
Teacher:	Mm. Do you put on your nightwear yourself?
Amal:	Yes (*Nods*)
Teacher:	You do it yourself?
Julie:	And me too
Teacher:	And you too? (*Turns to Julie*)
Amal:	Alisha [Amal's younger sister] cannot (*Smiles*)
Teacher:	Not Alisha? (*Looks at Amal*)
Amal:	*Shakes her head*
Teacher:	I guess Alisha probably needs some help

This short conversation illustrates Heidi's way of linking Amal's own evening routines to the book content. As often happens, the more language proficient child, Julie, quickly answered Heidi's question. By using non-verbal gestures (i.e. turning towards Amal, looking or smiling at her) or repeatedly asking Amal directly, Heidi invited Amal to join the conversation.

When it comes to choosing books that meet children's interests as well as their social and developmental levels (cf. Wiseman, 2011), Heidi, as many other kindergarten teachers reading for second language learners, often is confronted with dilemmas. In several reading sessions Heidi chose to read symmetrical picture books like *Emma Tvertimot*, in which pictures and verbal text present the same information on the same double spread. This is rather common in picture books for toddlers. The content words in the verbal texts are typically concrete pieces of for example food, toys or clothes, and they are chosen because they are concretes and easy to illustrate, and thus also easy to recognize and interpret by the child. Such picture books are originally written for younger children who are read to in their first language, but they of course also can be used for older second language learners in a kind of direct teaching of vocabulary. Although Heidi sometimes chose such books in reading sessions for the older children, she expressed ambivalence about doing so in the interviews. Even if these books provide comprehensible lexical input, Heidi found the content undemanding and unchallenging for children like Amal. She was concerned with the possible contrast between what is linguistically accessible for the children and the intellectual challenge and aesthetic experiences she also wanted the reading sessions to reflect. If the book gets too specific and easy, it will be less challenging and interesting, according to Heidi:

> Sometimes I have chosen a picture book without reading the exact text. The book might be too boring even if it is linguistically comprehensible and corresponds to the child's language proficiency. But what about their intellectual level and needs? In reading the books, I might just come up with another story or supply the verbal text with other stories.

In reflections on picture book reading, Heidi expressed clearly that her aim was not to underestimate children's intellectual potential when reading to the children who were developing Norwegian as their second language. When reading books which were more linguistically complex, she often used concrete artefacts to explain and clarify, but she did not try to explain all details. She argued that by simplifying and explaining too much, the language learning environment will be less challenging for the second language learners.

Three recent Scandinavian studies examine the relationship between linguistic accessibility and considerations of complexity level (Daugaard & Johansen, 2012; Kulbrandstad, 2008; Skaret, 2011). Like Kulbrandstad, Daugaard and Johansen were concerned about teachers always avoiding complex texts or concepts in making language comprehensible to children. Selection of literature should not only be done according to linguistic availability, content recognition and cultural considerations, but also according to aesthetic and literary concerns (Daugaard & Johansen, 2012, p. 12). Skaret's study (2011) of children's perceptions of cultural encounters in picture books, demonstrates how a 5 year old boy, Bogdan, with limited second

language proficiency, clearly benefited from complex texts even if the verbal text was not easily accessible to him. The visual figurativeness in the rich and complex illustrations supported his literary understanding.

Summing up research supporting early literacy development, Paratore et al. (2011) emphasize the importance of sharing different kinds of books with children, acknowledging that different kinds of texts afford different kind of language learning: "Texts that introduce children to unfamiliar topics, interesting and complex syntax, and rare or sophisticated words are likely to contribute more to vocabulary and language learning than books low on these characteristics" (p. 124). Paratore et al. refer also to a study showing that parents and children talked more while reading expository texts than narratives. For emergent bilingual children collaboration between kindergarten and home sharing different kinds of texts in different languages is one possible way of addressing this challenge. Heidi in her work also showed another way when she constantly challenged her own choices of books to be read aloud, and when she explored different ways to scaffold the second language users' understanding.

Socio-Dramatic Play and Literacy Development

Sociodramatic play, with its potential symbolic transformations, metaplay language and narrative components, is considered important for emergent literacy development (Lawrence & Snow, 2011; Neuman & Roskos, 1991; Pellegrini & Galda, 1990, 1993; Sawyer & DeZutter, 2007). However, experiences with socio-dramatic play elude many children, particularly those who might benefit the most. For example, studies have reported that due to their second language proficiency second language learners' participation is at risk, even in settings where socio-dramatic play is highly valued (Karrebæk, 2008; Kultti, 2012; Zachrisen, 2013). Children are traditionally expected to participate freely in such play settings without interference from adults. "Teaching children to play" have been controversial in the Scandinavian kindergartens (Vedeler, 1999), but kindergarten teachers like Heidi still find this necessary in some situations, scaffolding second language learners into playing with the other children.

Heidi was engaged in all language learning possibilities in everyday situations and, as we have seen, also when playing with the children. Socio-dramatic play with different roles was used actively in more advanced language learning, creating situations characterized by more cognitive demanding and decontextualized language use, thus bridging oral and written language experiences. In the interviews Heidi stressed the importance of being a linguistic role model for the children:

> There is so much language learning potential in play that one should make the most of. During play you really come close to the children and their plans and then you have all best opportunities to correct children in a good way without saying 'no' and demonstrate their mistakes. It will all happen the natural way without the children even noticing. You will be a good language model.

Table 3.1 Teachers' and children's role in play

	Teacher's play role	Child's play role (Sara)
1. play round	Doctor	Observer
2. play round	Doctor	Patient
3. play round	Patient	Doctor
4. play round	Observer/prompter	Doctor
5. play round	Observer/prompter	Doctor

One way of realizing language modelling used by Heidi, was to take part in play situations to introduce the second language learners to the language required and to scaffold them gradually into becoming independent participants of the play. Table 3.1 describes the teacher's and one of the children's (Sara's) different roles in one observed doctor-patient play. The whole play sequence was repeated five times. As illustrated by the table, the teacher was taking different roles, gradually withdrawing from the activity.

In the first round Sara was invited to observe while Heidi played doctor with another child. In the second round Sara was given the role as patient. In the third round Heidi was the patient and Sara the doctor. In the last round another child replaced Heidi as the patient. During the play, Heidi was scaffolding Sara, helping her with the language required, and gradually leaving the scene to the children.

During the two first play rounds, Heidi introduced and repeated relevant vocabulary to Sara, such as *examination*, *injection*, *waiting room*, *hurt*, *medicine*, and *treatment*. She also modelled the different roles (doctor, patient), and explicitly expressed directory utterances like "now it's your turn" or "I'm the doctor" and role utterances like "let's examine you" or "does it hurt?". One of the characteristics of a sociodramatic play like doctor-patient is the fictional level that is constituted linguistically by the participants. Children must be familiar with and master these linguistic features in order to participate. Objects or persons may represent something else than the referent, i.e. symbolic transformations (Pellegrini & Galda, 1990, p. 78).

When Heidi made object transformations and uttered "you'll have an injection" and "I will give you some medicine", she did not provide concrete artefacts to help understanding. She would have made it more linguistically accessible to Sara if she had used material resources or provided more contextual clues. However, Heidi explained in the interviews that her strategy was to demonstrate the linguistic and cognitive complexities in the doctor-patient play, and to help Sara into the play in other ways. The symbolic transformation processes are thought to strengthen children's general representational skills and prepare them to engage in the symbolic representation involved in reading and writing. According to Vygotsky, such symbolic transformation is crucial for emergent literacy: "symbolic representation in

play is essentially a particular form of speech at an early state, one which leads directly to written language" (Vygotsky, 1978, p. 111).

In the initial phase of the doctor-patient role play, Heidi modelled metaplay language for Sara by saying for example 'I am the doctor'. Metaplay language is closely related to metacognitive activities as ways to stimulate metalinguistic awareness. Pellegrini and Galda (1993) underline that such language use is important for later literacy development. The negotiation that takes place in socio-dramatic play draws the participants' attention to the specific language features of the play and also requires them to make judgements about how other participants behave and express themselves orally.

Multilingual Identities

Recent Scandinavian research has illustrated that the use of multilingual children's first language seems to be at risk in kindergartens. Monolingual practices are the norm (Andersen et al., 2011; Axelsson, 2005, 2009; Kristensen & Daugaard, 2012; Kultti, 2012; Rambøll Management, 2008; Østrem et al. 2009). In Axelsson's (2005, 2009) study of literacy practices in Swedish kindergartens, she found that even if the kindergarten staff were positive to children's multilingualism and well-informed on bilingualism as well, the literacy events were rarely related to the children's first languages. One exception was the use of "language posters" where the word "welcome" was written in several languages. In Heidi's kindergarten similar "language posters" were used. Here the posters included a picture of each child and a "hello" translated into the different languages used by the families. These language posters allowed for a variety of metalinguistic conversations, where all the children's languages were discussed; Swedish as well as Kurdish, Norwegian or Somali.

Heidi also introduced other metalinguistic conversations and activities where she used languages that none of the children knew before. She built on her own multilingual competence in English, Spanish and German by introducing phrases and words like "Merry Christmas/Feliz Navidad", and by counting to twenty in German and Spanish with the children. Heidi referred to these various metalinguistic activities and conversations as a kind of language play:

> Many of the children are very interested and this has developed to be more or less like a language play. They want to know "what's that called" all the time. The monolingual children are interested in learning for example Somali. Amal didn't want to say anything in Somali at first, but now this has suddenly changed, so now they think it is fun. The intention was to strengthen the second language learner's self-image and make them proud of their own culture and identity and increase their status in the group of children.

By displaying her own multilingual skills and the second language learners' first languages, Heidi has managed to create an atmosphere where languages are considered a resource by the whole group of children. Heidi describes how all the children gradually shared with each other their knowledge of language systems, dialects, and the meanings of specific words. This has in turn changed the second language

learners' attitudes to their home languages and enabled them to bring up and display their languages. According to Heidi, the following conversation would not have been possible without her systematic work to create this positive multilingual atmosphere and attitude of curiosity towards languages. The conversation took place while Heidi and four children were drawing and painting; the language posters were on the wall behind them. The four children were Alisha (3:6 years) and Amal (5:5 years) with Somali family background, Hanna (5:3 years) with parents from Iran and Tobias (5:4 years) with Norwegian as his first language.

Teacher:	What's that? (*to Alisha who is using a spoon*)
Alisha:	Spoon
Teacher:	Is it a spoon?
	Do you use it when you eat?
Amal:	Spoon
Teacher:	(*Turns to Amal*) What's spoon called in Somali?
Amal:	Mudi (*whispering*)
Teacher:	He? (*leans towards Amal*)
Amal:	Mudi!
Teacher:	Mudi?
Amal:	Mudi
Teacher:	Mudi (*adjusts her pronunciation*)
Alisha:	Mudi she said
Teacher:	Mudi
Alisha:	Spoon is mudi
Teacher:	Spoon is mudi
	So you think I will remember that? (*looks at Amal*)
Amal:	Yes (*nods*)
Teacher:	Spoon is mudi (*turns to Tobias and Hanna*)
	Mudi is spoon in Somali
	What is spoon in Persian? *(looks at Hanna)*
Hanna:	Gasja
Heidi:	Gasja
	It sounds almost like *gaffel (Norwegian word for 'fork')*
Alisha	Gasja gasja gasja
Teacher:	Gasja mudi
Tobias:	Gasja mudi

In the first part of the conversations Heidi took her usual role as second language teacher, wanting to know if Alisha knows what an object is called in Norwegian. But after a few turns, she changed her role into being an active language learner herself, eager to learn what "spoon" is in Somali and Persian. She addressed the second language learners as the language experts several times, focusing on their languages resources and making their resources attractive and interesting. This made Tobias interested, as is illustrated by his repetition of the words in Somali and Persian. By comparing the word 'gasja' to the Norwegian word 'gaffel' (fork), Heidi elaborated

the conversation, drawing the children's attention, metalinguistically, to phonological similarities and thereby creating a room for multilingual phonological awareness. Traditionally, such important literacy activities in kindergarten are conducted as monolingual tasks in Norwegian, but Heidi demonstrates the potential of using a diversity of languages.

By displaying different languages, Heidi succeeds in making multilingualism an issue for all children. Her pedagogy is as much directed towards the whole group of children as towards the second language learners. This practice has parallels to Cummins' and Early's (2011) work with identity texts in Canadian classrooms, where several language minority students initially thought that their home languages were not legitimate. Over time and with encouragement from their teacher, students came to realize the legitimacy of their languages and became more aware of the rich culture expressed through these languages. Cummins and Early (2011, p. 38) point out how students who feel their culture and identity validated in the classroom are much more likely to engage with literacy than those who feel that their culture and identity are ignored or devalued. Students, whose identities are affirmed during work in school or kindergarten, will invest their identities actively in the learning processes.

By creating a space for multilingualism as such, not only for particular languages, Heidi makes Somali and Persian as legitimate and interesting for the children as Swedish, English, and Spanish are in other settings. By doing this, she challenges the powerful monolingual position of Norwegian in this kindergarten and invites to linguistic diversity and multilingual curiosity and awareness. As Cazden et al. highlights, cultural and linguistic diversity are powerful educational resources for all children:

> […] cultural and linguistic diversity is a classroom resource just as powerfully as it is a social resource in the formation of new civic spaces and new notions of citizenship. This is not just so that educators can provide better "service" to "minorities." Rather, such a pedagogical orientation will produce benefits for all. For example, there will be a cognitive benefit to all children in a pedagogy of linguistic and cultural pluralism, including for "mainstream" children (Cazden et al., 1996, p. 69).

Final Remarks

The main approach to pedagogical work with languages and early literacy development in Norwegian kindergartens is traditionally characterized as contextualized language learning, an approach which is easily associated with words like unsystematic and unplanned. In the examples above, Heidi's teaching might appear to be incidental because she mainly uses informal settings. Nevertheless, without necessarily drawing on a detailed and structured syllabus, she still creates a rich language and literacy environment for the second language learners. Heidi's scaffolding helps

the children to develop cognitive and linguistic resources they may later use on their own in new contexts. Gibbons (2006) argues that the complex and situated nature of scaffolding makes it possible for teachers to actively support language learning without returning to heavily directed instruction.

Recent Norwegian educational policy has focused on attendance in kindergarten as an important strategy to strengthen minority children's competence in Norwegian before entering school. This strategy is often accompanied with a call for more formal learning situations. Until now there has been few Scandinavian research projects analysing how kindergarten teachers actually work with second language teaching, and how informal and formal learning settings might promote different aspects of linguistic competence. This is however important knowledge not only for educational policy, and kindergarten teachers, but also for teacher education.

The content of second language teacher education is discussed by Johnson (2009). She sums up: "The knowledge base of L2 teacher education must include not only disciplinary or subject matter knowledge that defines how languages are structured, used, and acquired, but it must also account for the *content* of L2 teaching; in other words,'what and how languages is actually taught in L2 classrooms as well as teachers and student's perception of that content'" (p. 22–23). The combination of observations and reflective interviews which were used in the study of Heidi's teaching practices resulted in detailed descriptions on how a kindergarten teacher works on promoting literacy and language learning in a variety of situations involving emergent bilingual children. Such thick descriptions are useful points of departure when discussing the content of second language literacy learning in kindergarten with teacher students.

When asked to describe challenges facing kindergartens of tomorrow, Heidi stressed the importance of allowing kindergarten teachers to spend time with each child and be able to develop personal relations in order to meet each child's complex linguistic needs. According to Cummins (2009), the micro-interactions between teacher and child constitute the most immediate determinant of educational success or failure for the child. Thus, it is paradoxically that shortages of time spent with the children as well as lack of professional qualification are two of the main challenges facing Norwegian kindergartens today. In 2013 only 37, 5% of the kindergarten workforce was qualified kindergarten teachers (OECD, 2015, p. 66). This means that the qualified kindergarten teachers must spend more of their time supervising the assistants, while the assistants spend more time with the children. These challenges combined with the political focus on more formal second language learning might put informal language and literacy teaching practices, like Heidi's, at risk. Still each kindergarten teacher has important choices to make in the ways they structure their own interaction with children and in the ways they supervise the assistants. Teacher education, both pre-service and in-service, should strengthen kindergarten teachers in making qualified choices in their every day practices, orchestrating kindergarten as literacy and language learning environment for emergent bilinguals.

References

Adams, M. J. (1990). *Beginning to read. Thinking and learning about print*. Cambridge, MA: The MIT Press.

Alstad, G. T. (2013). *Barnehagen som språklæringsarena: En kasusstudie av tre barnehagelæreres andrespråksdidaktiske praksiser [Kindergarten as second language learning environment. A case study of three preschool teachers' second language teaching practices]*. Oslo, Norway: Det humanistiske fakultetet, Universitetet i Oslo.

Alstad, G. T. (2016). *Andrespråk og flerspråklighet i barnehagen: Forskningsperspektiver på barnehagepraksiser [Second language and multilingualism in early childhood education: Research on teaching practices]*. Bergen, Norway: Fagbokforlaget.

Alvesson, M., & Sköldberg, K. (2008). *Tolkning och reflektion: Vetenskapsfilosofi och kvalitativ metod [Interpretation and reflection. Philosophy of science and qualitative method]* (2nd ed.). Lund, Sweden: Studentlitteratur.

Andersen, C. E., Engen, T. O., Gitz-Johansen, T., Kristoffersen, C. S., Obel, L. S., Sand, S., et al. (2011). *Den flerkulturelle barnehagen i rurale områder: Nasjonal surveyundersøkelse om minoritetsspråklige barn i barnehager utenfor de store byene [The multicultural kindergarten in rural areas]*. Elverum, Norway: Høgskolen i Hedmark.

Aukrust, V. G. (2007). Young children acquiring second language vocabulary in preschool group-time: Does amount, diversity, and discourse complexity of teacher talk matter? *Journal of Research in Childhood Education, 22*(1), 17–38.

Axelsson, M. (2005). Litteracitetsutveckling i Stockholms flerspråkiga förskolor [Literacy development in multilingual kindergartens in Stockholm]. In M. Axelsson, C. Rosander, & M. Sellgren (Eds.), *Stärkta trådar: Flerspråkiga barn och elever utvecklar språk, litteracitet och kunskap [Strenghtened threads: Multilingual children and students developing language, literacy and knowledge]* (pp. 19–98). Rinkeby, Sweden: Språkforskningsinstitutet.

Axelsson, M. (2009). Litteracitetshändelser och litteracitets-praxis i flerspråkiga förskolor [Literacy events and literacy practices in multilingual kindergartens]. In O. K. Kjørven, B.K. Ringen, & A. Gagné (Eds.), *Teacher diversity in diverse schools: Challenges and opportunities for teacher education* (pp. 251–265). Vallset, Norway: Oplandske Bokforlag.

Axelsson, M., & Magnusson, U. (2012). Forskning om flerspråkighet och kunskapsutveckling under skolåren. [Research on multlingualism and knowledge development]. In K. Hyltenstam, M. Axelsson & I. Lindberg (Eds.), *Flerspråkighet. En kunskapsöversikt. [Multilingualism. A state of art]* (pp. 247–367). Stockholm, Sweden: Vetenskapsrådet.

Barton, D., & Hamilton, M. (1998). *Local literacies: Reading and writing in one community*. London/New York: Routledge.

Bissex, G. L. (1980). *GNYS AT WRK. A child learns to read and write*. Cambridge, MA: Harvard University Press.

Cazden, C., Cope, B., Fairclough, N., Gee, J., Kalantzis, M., Kress, G., et al. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60–92.

Clay, M. M. (1982). *Observing young readers. Selected papers*. Portsmouth, NH: Heineman.

Coady, J. (1997). L2 vocabulary acquisition: A synthesis of the research. In J. Coady & T. N. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 273–290). Cambridge, UK: Cambridge University Press.

Cohen, L., Morrison, K., & Manion, L. (2007). *Research methods in education* (6th ed.). London: Routledge.

Cummins, J. (2000). *Language, power and pedagogy: Bilingual children in the crossfire (Bilingual education and bilingualism 23)*. Clevedon, UK: Multilingual Matters.

Cummins, J. (2009). Pedagogies of choice: Challenging coercive relations of power in classrooms and communities. *International Journal of Bilingual Education and Bilingualism, 12*(3), 261–271.

Cummins, J., & Early, M. (Eds.). (2011). *Identity texts: The collaborative creation of power in multilingual schools*. Stoke on Trent, UK: Trentham Books.

Daugaard, L. M., & Johansen, M. B. (2012). Tosprogede børns møde med metafiktion i en postmoderne billedbog [Bilingual children's encounter with metafiction in postmodern picture books]. *BLFT - Nordic Journal Of ChildLit Aesthetics, 3*, 1–14.

Dickinson, D. K., & Tabors, P. O. (Eds.). (2001). *Beginning literacy with language*. Baltimore, MD: Paul. H. Brookes Publishing.

Dickinson, D. K., Griffith, J. A. Golinkoff, R. M. & Hirsh-Pasek, K. (2012). How reading books fosters language development around the world. *Child development research*. doi:10.1155/2012/602807.

Gibbons, P. (2002). *Scaffolding language, scaffolding learning: Teaching second language learners in the mainstream classroom*. Portsmouth, NH: Heinemann.

Gibbons, P. (2006). *Bridging discourses in the ESL classrom: Students, teachers and researchers*. London: Continuum Books.

Hagtvedt, B. E. (1988). *Skriftspråksutvikling gjennom lek*. [Literacy development through play]. Oslo, Norway: Universitetsforlaget.

Johnson, K. E. (2009). Trends in second language teacher education. In A. Burns & J. C. Richards (Eds.), *The Cambridge guide to second language teacher education* (pp. 20–29). New York: Cambridge University Press.

Karrebæk, M. S. (2008). *At blive et børnehavebarn: En minoritetsdrengs sprog, interaction og deltagelse i børnefællesskabet [Becoming a kindergartener. A minority boy's language, interaction and participation in children's fellowship]*. Copenhagen, Denmark: University of Copenhagen.

Kristensen, K. S., & Daugaard, L. M. (2012). *Biliteracy i børnehaven: At arbejde med skrift på flere sprog i dagtilbud [Biliteracy in kindergarten. Working with multilingual literacy in early childhood education in Denmark]*. Aarhus, Denmark: Aarhus kommune og Videncenter for sprog, læsning og læring, VIA University College.

Kulbrandstad, L. I. (2008). Å se språklæring som en aktiv prosess: En studie av systematisk ordforrådsundervisning i en flerkulturell elevgruppe [Language learning as an active process: A study of systematic vocabulary teaching in a multicultural student group]. *Nordand: Nordisk tidsskrift for andrespråksforskning, 3*(1), 55–77.

Kultti, A. (2012). *Flerspråkiga barn i förskolan: Villkor för deltagande och lärande [Multilingual children in preschool: Conditions for participation and learning]*. Gothenburg, Sweden: University of Gothenburg.

Lawrence, J. F., & Snow, C. (2011). Oral discourse and reading. In M. L. Kamil et al. (Eds.), *Handbook of reading research* (Vol. IV, pp. 320–337). New York/London: Routledge.

Lesesenteret. (2015). *Språkløyper: Nasjonal strategi for språk, lesing og skriving* (2016–2019) [National strategy for language, reading and writing 2016–2019]. Stavanger, Norway: University of Stavanger.

Lorentzen, R. L. (1991). Skriftspråkstimulering i førskolealder.[Stimulating literacy development in kindergarten]. In I. Austad (Ed.), *Mening i tekst. [Seeking meaning in text]* (pp. 52–94). Oslo, Norway: Cappelen.

Ministry of Children and Family Affairs. (1995). *Framework plan for the content and tasks of kindergartens*. Oslo, Norway: Ministry of Children and Family Affairs.

Ministry of Children, Equality and Social Inclusion. (2012). *En helhetlig integreringspolitikk: Mangfold og felleskap* [An overall integration policy. Diversity and fellowship]. Oslo, Norway: Ministry of Children, Equality and Social Inclusion.

Ministry of Education and Research. (2011). *Framework plan for content and tasks in kindergartens*. Oslo, Norway: Ministry of Education and Research.

Ministry of Education and Research. (2012). *Nasjonale retningslinjer for barnehagelærerutdanning [National guidelines for early childhood teacher education]*. Oslo, Norway: Ministry of Education and Research.

Ministry of Education, Research and Church Affairs. (1999). *The curriculum for the 10-year compulsory school in Norway*. Oslo, Norway: Ministry of Education, Research and Church Affairs.
Neuman, S. B., & Roskos, K. (1991). The influence of literacy-enriched play centers on preschoolers' conceptions of the functions of print. In J. F. Christie (Ed.), *Play and early literacy development* (pp. 167–188). Albany, NY: State University of New York Press.
NOU. (1995). *Opplæring i et flerkulturelt Norge.* [*Education in a multicultural Norway*]. Oslo, Norway: Statens forvaltningstjeneste. NOU 1995:12
OECD. (2015). *Early childhood education and care. Policy review. Norway*. Paris: OECD.
Paratore, J. R., Cassano, C. M., & Schickedanz, J. A. (2011). Supporting early (and later) literacy development at home and at school. The long view. In M. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research* (Vol. IV, pp. 107–135). New York: Routledge.
Pearson, P. D., Hiebert, E. H., & Kamil, M. L. (2007). Vocabulary assessment: What we know and what we need to learn. *Reading Research Quarterly, 42*(2), 282–296.
Pellegrini, A. D., & Galda, L. (1990). Children's play, language and early literacy. *Topics in Language Disorders, 10*(3), 76–88.
Pellegrini, A. D., & Galda, L. (1993). Ten years after: A reexamination of symbolic play and literacy research. *Reading Research Quarterly, 28*(2), 162–175.
Prater, K. (2009). Reading comprehension and English language learners. In S. E. Israel & G. G. Duffy (Eds.), *Handbook of research on reading comprehension* (pp. 607–621). New York/London: Routledge.
Rambøll Management. (2008). *Kartlegging av språkstimulering og språkkartlegging i kommunene: Sluttrapport [Language stimulation and mapping of children's language. Final report]*. Oslo, Norway: Ministry of Education and Research.
Sawyer, R. K., & DeZutter, S. (2007). Improvisation: A lens for play and literacy research. In J. F. Christie & K. A. Roskos (Eds.), *Play and literacy in early childhood: Research from multiple perspectives* (2nd ed., pp. 21–36). Mahwah, NJ: Lawrence Erlbaum Associates.
Skaret, A. (2011). *Litterære kulturmøter: En studie av bildebøker og barns resepsjon [Literary cultural encounters: A study of picture books and children's reception]*. Oslo, Norway: Det humanistiske fakultet, Universitetet i Oslo.
Statistics Norway. (2015). Kindergartens, 2014, final figures. Retrieved from https://ssb.no/en/utdanning/statistikker/barnehager
Sweet, A. P., & Snow, C. (2002). Reconceptualizing reading comprehension. In C. C. Block, L. B. Gambrell, & M. Pressley (Eds.), *Improving comprehension instruction. Rethinking research, theory, and classroom practice* (pp. 54–79). San Fransisco: Jossey-Bass.
Tal, C., & Segal-Drori, O. (2014). Student teachers implementation and understanding of repeated picture-book reading in preschools. *Australian Journal of Teacher Education, 40*(1), 15–34.
The Norwegian Directorate for Education and Training. (2013). *Kompetanse for mangfold [Competence for diversity]*. Oslo, Norway: The Norwegian Directorate for Education and Training.
Vedeler, L. (1999). *Pedagogisk bruk av lek [Using play in education]*. Oslo, Norway: Universitetsforlaget.
Verhelst, M. (2006). A box full of feelings: Promoting infants' second language acquisition all day long. In K. V. D. Branden (Ed.), *Task-based language education: From theory to practice* (pp. 197–216). Cambridge, UK: Cambridge University Press.
Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
Wallace, C. (2013). *Literacy and the bilingual learner. Texts and practices in London schools*. London: Palgrave Macmillan.
Wiseman, A. (2011). Interactive read alouds: Teachers and students constructing knowledge and literacy together. *Early Childhood Education Journal, 38*(6), 431–438.
Wolde, G. (2002). *Emma Tvertimot [This is Betsy]*. Oslo, Norway: Aschehoug.

Zachrisen, B. (2013). *Interetniske møter i barnehagen: vilkår for barns samhandling i lek [Inter-ethnic meetings in play: conditions for interactions in play]*. Stavanger, Norway: University of Stavanger.

Østrem, S., Bjar, H., Føsker, L. I. R., Hogsnes, H. D., Jansen, T. T., Nordtømme, S., et al. (2009). *Alle teller mer: En evaluering av hvordan rammeplan for barnehagens innhold og oppgaver blir innført, brukt og erfart [Everyone counts more: An evaluation of the implementation of the framework plan for content and tasks in kindergarten]*. Tønsberg, Norway: Høgskolen i Vestfold.

Chapter 4
"You Guys Should Offer the Program more Often!": Some Perspectives from Working Alongside Immigrant and Refugee Families in a Bilingual Family Literacy Program

Jim Anderson, Ann Anderson, Nicola Friedrich, and Laura Teichert

Abstract In this chapter, we report on a bilingual family literacy program with 500 immigrant and refugee families of 3 to 5-year old preschool children from four different linguistic groups in the Greater Vancouver Area of British Columbia, Canada. We situate the work in socio-historical theory and draw on notions of intersubjectivity or shared understanding and additive bilingualism - the concept that there are benefits in maintaining one's first or home language while acquiring a second or additional languages. Drawing on an analysis of focus group sessions, the Parents' Perceptions of Literacy Learning Interview Schedule (Anderson, 1995), and field notes, we report on families' perceptions of the benefits of the program, concerns and issues they raised, and changes in their perspectives of literacy learning over the course of the project.

Introduction

> It's a typical, wet February morning and we are gathered in the library of Lakeside Elementary School in the Greater Vancouver area of British Columbia, Canada. About 25 Punjabi speaking families are discussing the session of the bilingual family literacy program in which they have just participated. The Punjabi speaking cultural worker, who helped co-facilitate the session, has just asked the families what aspects of the program seem to be working well for them, and what aspects they felt needed to be changed. Although the question had been posed in Punjabi, one of the parents immediately responds in English, "You guys should offer the program more often!"

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Most educators and researchers acknowledge that the family can be a rich site for young children's literacy development. Drawing on evidence from socio-linguistic and ethnographic research that demonstrates that this axiom holds across cultural, linguistic, and social groups (e.g., Gregory, 2005; Purcell-Gates, 1996; Taylor, 1983; Taylor & Dorsey-Gaines, 1988), educators have developed family literacy programs to encourage and support young children's literacy development (e.g., Anderson, Purcell-Gates, Jang, & Gagne, 2010; Nutbrown, Hannon, & Morgan, 2005; Rodriguez-Brown, 2004). Wasik and Van Horn (2012) define family literacy programs as any "two generation program focused on direct or indirect services to children and adults" that provide "parents with experiences to enhance their children's literacy skills" (p. 6). Many programs are aimed at preschool children, providing parents and children with an opportunity to engage in age appropriate literacy activities and are often located outside of schools in libraries, community centers, and so forth.

Converging evidence indicates that family literacy programs *work* in that they enhance young children's language and literacy development (Anderson et al., 2010; Brooks, Pahl, Pollard, & Rees, 2008; Phillips, Hayden & Norris, 2006). However, Auerbach (1989), Reyes and Torres (2007) and others have critiqued these programs, arguing that they fail to recognize and build on the home language and literacy practices of families and communities, and instead promote English and school literacy. Family literacy program developers and providers have paid attention to these critiques and have attempted to develop programs that are socially responsive. In this chapter, we draw on data from a 3 year project that reflected the social contextual stance advocated by Auerbach, by encouraging families' first language maintenance and attempting to build on their social and cultural capital (Anderson, Anderson, & Morrison, 2012; Anderson, Friedrich, & Kim, 2011). We first present the theoretical frames that inform our work and review the related literature. Next, we briefly describe the program, *Parents As Literacy Supporters in Immigrant Communities (PALS)*,[1] that we collaboratively developed and implemented with approximately 500 immigrant and refugee families from four linguistic groups in five communities in the Greater Vancouver area of Canada. We then outline the methods for the study, after which we report the results and discuss their implications and significance.

Framework

We situate our work in socio-historical theory wherein learning is seen as initially social in that significant others mediate children's learning of the knowledge and skills needed in their community (Vygotsky, 1978). However, Rogoff (2003)

[1] Significant other adults such as older siblings, grandparents, aunts and uncles and others who spend time with children and are at least partly responsible for the children's care often accompany them to sessions. "Parent" is thus a placeholder for a significant other adult accompanying a child.

reminds us that "human development is a cultural process", noting that "[t]o date, the study of human development has been based largely on research and theory coming from middle class communities in Europe and North America" (p. 4). Her work demonstrates that across cultures, there are considerable differences in the expectations that adults have of children and how they support development and learning.

We also draw on the construct of inter-subjectivity and the understanding that our actions and thoughts are guided by the "cultural maps and assumptions in the substructure of our thought and action" (Crossley, 1996, p. 11). That is, it is a way of thinking about how people from different cultural groups make sense of and act upon their social worlds (Duranti, 2010). As Clay (1993) pointed out, the value ascribed to literacy, its functions and purposes, and how it is learned and taught will vary considerably across contexts. Researchers (e.g., Anderson, 1995; Reese & Gallimore, 2000) have documented how different cultural groups hold different *cultural models* of literacy development, which sometimes differ from school. However, Pahl and Kelly (2005) propose that family literacy programs can be a *third space* where participants draw on practices and understandings both from home and from school as they engage in activities that are hybridized.

Also guiding our work is the concept of *additive bilingualism*, the notion that one can learn a second language (L2) while retaining one's first (L1) language (Cummins, Chow, & Schecter, 2006). Central to additive bilingualism is the notion of *common underlying proficiency* (Cummins, 1983); that is, although the surface features of L2 differ from L1, high-order analytic and cognitive abilities transfer across languages as these *interlinguistic resources* are common to both. For example, studies by Bauer and Guerrero (2016) and Kenner (2004) demonstrate that children from a very young age are capable of learning to write and read simultaneously in more than one language both at home and at school when they are provided with encouragement, resources and support from significant others.

We also recognize the importance of play in young children's development and learning (Pellegrini, 2009) and a learning-through-play philosophy informed the *Parents As Literacy Supporters in Immigrant Communities* project. Thus, as we designed and implemented the program, we drew particularly on the literature on literacy and play (e.g., Pellegrini & Galda, 1993; Roskos & Christie, 2001).

Related Literature

As noted earlier, studies indicate that family literacy programs positively impact on young children's literacy development. For example, Phillips, Hayden, and Norris (2006) reported that children who participated in a family literacy program, called *Learning Together*, in inner-city neighborhoods in Canada made significant gains compared to the control group. In a meta-study that reviewed empirical studies in the United Kingdom and internationally, Brooks et al. (2008) concluded that family literacy programs positively affected children's early knowledge and skills.

However, most of the research to date has focused on programs offered in English and only recently have researchers begun to study bilingual programs designed for immigrant and refugee families.

In addition to our own work with immigrant and refugee families, several other researchers have reported on studies of bilingual family literacy programs. For example, Boyce, Innocenti, Roggman, Norman, and Ortiz (2010), in the "The Storytelling for the Home Enrichment of Language and Literacy Skills" study with migrant families in the United States, concluded that families benefited in that children's narrative skills and parents' ability to support children's learning improved. Hirst, Hannon, and Nutbrown (2010) found that children from families of Pakistani origin in Sheffield, UK, who participated in a home-based family literacy program provided in English and Punjabi, scored significantly higher on measures of early literacy knowledge than children in a control group. Zhang, Pelletier, and Doyle (2010) reported on a bilingual family literacy program in a Chinese community in Canada, concluding that the children benefited from the program, with significant improvement in expressive vocabulary. However, these studies focused on the effect of the program on children's language and literacy development. Parents' perspectives were not canvassed as they were in the present study. We concur with Swain, Brooks, and Bosley (2014) who pointed out, "parents are key players in FL programmes", arguing "research based upon insider insight and situated knowledge has the potential to produce bottom-up evidence" (p.78). Furthermore, the studies involved relatively small numbers of participants from a single language group. Thus the multi-year study reported here involving more than 500 families from different linguistic groups that tapped parents' understandings and beliefs complements the other studies and enhances our understanding of bilingual family literacy programs. We now turn to a brief description of the program.

Parents As Literacy Supporters in Immigrant Communities (PALS)[2]

The PALS program consists of 10–12 sessions, each of about 2 h duration, and scheduled according to the day and time that works best for the families in a particular community. Each session begins with the facilitators and families sharing food, after which the children accompany an early childhood teacher to a classroom; the parents/adult caregivers remain with the facilitators who introduce the topic of the day (e.g., learning to read; early mathematics; environmental print; learning and technology). Parents are encouraged to recall and share their memories, for example, of learning to read, early mathematics, or early writing and any of their children's experiences with early literacy, after which the facilitators describe the learning centers that have been set out for the families. The parents then join the

[2] A complete description of the project is available at: http://decoda.ca/wp-content/files_flutter/1314987684PALSinImmigrantCommunitiesResearchReport-Feb2011.pdf.

children, ages 3–5, in the classroom and, family dyads circulate for about an hour, engaging in the 6–8 learning centers with age appropriate activities that reflect the topic of the day. The adults and the facilitators then retreat to another room for a half-hour debriefing session, discussing: what activities worked; which were less successful; what the children learned through the activities, and so forth. Each family is provided with a high quality, bilingual children's book and other learning materials to support children's learning at home. All sessions are conducted in the first language of the families with English translation and families could choose to use English or first language during center time. The families were recruited through the schools, community centers, cultural organizations, and by word of mouth; they attended an orientation session that was widely advertised.

The program facilitators or teachers followed the same program manual at all of the sites. The manual provided the key ideas for each session, a menu of developmentally appropriate activities related to the focal topic of the session and from which the facilitators could choose, and a list of resources.

Method

In this chapter we address three research questions:

(1) What benefits, if any, do parents participating in a bilingual family literacy program identify as accruing to their children and to themselves through their participation?
(2) What challenges, if any, do parents participating in a bilingual family literacy program identify?
(3) Do the beliefs or perceptions of parents participating in a bilingual family literacy program change over the course of the program and if so, how?

Research Sites

Site A was located in a working class residential area comprised mostly of rental units. The Kindergarten to grade 5 (K-5) school, with children aged 5–11, was designated inner city, and had a student population of approximately 200. Site B was in a middle class residential area where most of the adults had a university education; about 400 students attended the, Kindergarten to grade 7 (K-7), school, with children aged 5–13. Site C was located in a working class neighborhood, comprised mainly of South Asian families. Children formed the largest demographic group and 500 of them attended the neighborhood (K-7) school. Site D was in a middle class area, with the majority of the population being immigrants from East and South East Asia and China with many of the adults having a university education.

PALS sessions were held in an annex, adjacent to the K-7 school, with about 400 students. Site E was located in a middle class neighborhood where about a quarter of residents were South Asian. This Kindergarten to grade 5 school had 400 students.

Data Collection and Analysis

As noted, in this chapter, we draw on three data sources: focus group sessions; the Parents' Perceptions of Literacy Learning Interview Schedule or PPLLIS (Anderson, 1995); and researchers' field notes.

Parents' Perceptions of Literacy Learning Interview Schedule (PPLLIS) The PPLLIS was designed to measure whether parents' perceptions or beliefs reflect a more traditional, skills based orientation or a more emergent, constructivist orientation[3] (Anderson, 1995). It consists of 23 items employing a three point Likert scale and an open ended question, "What are the five most important things you are doing to help your child learn to read and write?" The PPLLIS was administered in the first languages of the participants (or English if they preferred) in the first or orientation session and again in Session 9. To analyze the responses to the open-ended question, we first read all of the responses several times. Then, using the constant comparative method (Glaser & Stauss, 1967), we sorted and coded the data from the pre and post administrations of the PPLLIS according to descriptive themes.

Focus Groups (FG) The focus questions were presented in English and then translated by the cultural workers. Participants' responses were then translated into English and where necessary, follow-up questions were asked or clarification or elaboration sought. The focus group sessions were digitally recorded and the English translations of the questions and the responses transcribed in their entirety and analyzed. Again, we used the constant comparative method.

Field Notes The principal investigator and the research assistants took field notes for each session they attended. As well, after each session, the researchers typically wrote their reflections on the sessions. For the analysis reported here, we used the field notes to triangulate the other data sources.

Results

As noted earlier, the research questions addressed the perceived benefits of the program, the challenges that participants identified, and any changes that occurred in participants' beliefs over the course of the program. We next address each of these areas in turn.

[3] For example, "A child benefits from hearing her favorite book read over and over again."

Perceived Benefits of the Program

As would be expected, and as we have reported elsewhere (Anderson et al., 2011), families valued learning different ways to support their children's early learning and development. For example, they indicated that they understood better how children learn through play, a concept that was new to many of them but which is considered foundational in early childhood education in Western countries. They also talked about their expanded understanding of the different contexts in which children acquire literacy, and for example, mentioned how, with adult mediation, children can learn about print and its functions through environmental print in their homes and communities. Furthermore, they understood the importance of drawings and scribbling in children's emergent writing development.

Across all five sites, participants spoke positively of the bilingual format of the program and for different reasons. For example, some of the families were less proficient in English and hearing the key ideas in their first language was essential. For instance, one of the participants in the focus group session in Site E commented, "learning the examples in English and Punjabi, that is helpful". Families also indicated that this feature of the program also affirmed for them the value of maintaining their first language or as one parent said, "they keep their own language [while simultaneously learning English]" (FG, Site B).

As noted earlier, we provided a bilingual children's book for the families to take home and keep at the end of each session and families identified these as being important for several reasons. For example, one parent explained, "it's [the bilingual books] makes him read more because he likes to. If only in English, he doesn't want to read because it's hard" (FG, Site A). Although virtually all of the parents could read in their home languages, some of them had little facility in reading in English for as one of them commented, "It's really hard" (FG, Site A). Families were also adept in capitalizing on the affordances of the bilingual books and for example, in some cases they engaged in code switching, reading parts of the book in English and then switching to their first language. Others explained that they shared the easy books in English while reverting to their first language with books they themselves found more challenging. Still others read the book in the first language to support the child in understanding the text and then read the book in English: "I started from Farsi. I read the book in Farsi and then, after two or three times, I started to read it in English and then it worked really good [sic]".

Although the purpose of the PALS in Immigrant Communities program is to support parents in enhancing their children's language and literacy development, many of the adults indicated that the bilingual format of the program benefitted their own language and literacy learning. For example, parents reported that listening in English and in their first language in the sessions helped them improve their listening ability in the former while the latter ensured that they understood more fully the ideas that were being presented and discussed. Furthermore, the bilingual books supported them in developing their vocabulary, as the following example illustrates: "When there is something in the book I don't understand, when I see them, I get to

know the animal's name" (FG, Site A). Similarly, a parent at Site B reported that the dual language texts "improved my English". Because the program developers and the co-facilitators attempted to create a low risk environment, the parents indicated that they were more willing to practice speaking in English during the sessions. One of them stated, "Because before, I know a little bit [of English]. Now I understand what's the meaning of this and speak to them. I can improve to speak English." As we were about to implement the program, the English as a Second Language coordinator for one of the school districts where we would be working, opined, "You might not realize it but you have created a wonderful context for the adults to learn English here in a functional, purposeful and supportive way" (J. Anderson, Field Notes, December 1, 2007) and the families confirmed her analysis. Thus, the intergenerational structure of PALS whereby we worked with parents and their children together appeared to support the language and literacy learning of both groups.

While the parents tended to highlight how the program supported their children's and their own language and literacy development, they also identified affective and social benefits. For example, parents reported that the children began to identify themselves as learners and to develop self-efficacy, as in the following case: "[He] open his bag and start everything. 'This is my homework. I have to finish that one and next time, I will go and do my books'". They also told of children picking up their favorite books of their own volition and pretending to read them. Furthermore, they commented on how their children, in addition to learning to become more independent, were also learning important social skills such as how to cooperate with other children, an important point in that some immigrant and refugee families feel quite isolated and alone. The parents also saw the program as contributing to their own self-confidence and self-efficacy, and as one of them said, "I do thing better so much-everything".

To summarize, families indicated that they better understood how to support their children's development and learning in different ways. They also understood more fully western pedagogy and learning through play, a perspective sometimes antithetical to their own experiences as children. They identified benefits of the bilingual format of the program, both for the children and themselves, and, they saw affective and social benefits of the program.

Perceived Challenges of the Program

In keeping with the social-contextual roots of the program and our own commitment to maintaining a reflexive stance, we next report on the challenges that families identified.

As noted earlier, the PALS program typically consists of 10–12 sessions of 2 h duration offered between October and May. Over the years, we have experimented with offering sessions more frequently (15–18) in some communities (e.g., Anderson, Smythe, & Shapiro, 2005) but feedback from families suggested that this number was placing too many demands on their busy lives and that there was little

time for practicing at home the skills and strategies they were learning about; hence, we settled on offering sessions less frequently. However, some parents in the current study believed that more frequent sessions were necessary, and for example, indicated that they would like to come "every day", others "every week" while still others suggested "every 2 weeks". Because PALS focuses on early language and literacy, the children who attend are typically 3, 4 and 5 year olds, although we accommodate younger and older siblings as necessary. Again, some families believed that the program should be extended so that families could be supported as their children progressed through school, as a parent at Site B explained, "Not only for the younger one, the older ones too" (FG, Site B.).

Although at the time of the project we did not have the resources to expand the program, in some of the districts, PALS has subsequently been integrated with Strong Start, an early childhood development program offered by the province of British Columbia where preschoolers and their caregivers on a daily basis can engage "in play-based early learning activities – including stories, music and art. At no cost to families, this early learning drop-in program helps prepare children for success in Kindergarten" (Province of British Columbia, 2014).

Cognizant of the diverse and myriad ways of childrearing and parenting (e.g., Rogoff, 2003), aware of the many parenting programs offered by community groups, and wary of not exceeding our own expertise, we elected not to have an explicit focus on parenting in PALS, although we encourage facilitators to attend to, and discuss, parenting issues that arise during sessions. However, parents indicated that they felt that more attention should be paid to this issue. For example, during the focus group session at Site D, the cultural worker explained the concerns of one of the families, commenting, "Our direction [is] toward literacy and she is wondering if we could provide information about parenting skills". Families sometimes raised the issue of "discipline" whereupon the facilitators usually engaged in respectful conversation about establishing boundaries and expectations and strategies for helping children learn appropriate and inappropriate behavior (J. Anderson, Field Notes, February 8, 2008). So, although we made it clear in recruitment efforts and in the orientation sessions that the focus in PALS would be on language and literacy development - that it was not a parenting program - and although parenting issues were addressed in a contingent, responsive manner, some families still requested a more explicit and consistent focus on them.

As noted earlier, although the program reflected a learning through play philosophy, we also ensured that there was an explicit focus on learning the letters of the alphabet and letter-sounds (National Early Literacy Panel, 2008). However, some parents indicated that they wanted more emphasis on getting children ready for school and learning the alphabet and "sounds", which of course we intended to be a central part of the program. This finding suggests that either the focus was not explicit enough for parents to recognize or that parents were drawing on (and referring to) their own experiences learning these skills through drill and practice and/or rote memory (e.g., Anderson, 1995) which contrasted with learning the letters of the alphabet through age appropriate play activities which was promoted in the program.

In summation then, some families indicated concerns with the frequency of the sessions, others wanted more emphasis on parenting, while still others believed that school readiness should receive more attention. We next report on parents' beliefs about and perceptions of literacy learning.

Parents' Perceptions of the Program

In this section, we examine parents' perceptions of "the five most important things **they do** to support their child's reading and writing", which we collected at two time points. While the openness of the question inevitably led to diverse, and at times idiosyncratic responses, commonalities across parents' perceptions were found.

Earlier studies (Anderson, 1995; Anderson & Gunderson, 1997) with immigrant and refugee families in the metropolitan area where the current study was conducted found that parents decried the learning through play philosophy of their children's early literacy programs. Somewhat unexpectedly, the largest number of comments parents' provided on both the pre and post PPLLIS spoke to "playing" as an important way to support their child's learning to read and write. Indeed, at the beginning of the program, with the exception of Site A, at least half of the parents at each site identified the importance of play (e.g., "We can teach our children when we are playing with them"). While overall, comments regarding "play" increased only slightly on the post-PPLLIS, it is worth noting the working class parents in Site A, provided five times more "play" related comments, at the end of the program. Towards the end of the program "singing", "playing cards" and "playing computer" appeared in addition to references to "playing" more generally. In the post PPLLIS, comments about "learning letters through play" and "puzzles", were less prominent than they were at the beginning, an interesting finding given that learning the letters of the alphabet through play was promoted in the program.

The second most common perception parents shared, on both the pre- and post-PPLLIS, was "reading books". Some parents specified "reading storybooks with her" but most probably implied "reading a book together" when they wrote, "reading" or "through reading books"; a few parents indicated how often - "I read a book for my daughter every night" - while a few others spoke of ways in which they read - "pointing on words while we are reading a book". Since no discernible differences were evident in the pre and post comments, it appears that parents' perceptions of the importance of reading books to their child did not change.

Comments, referencing "letters" and/or "words" were third most frequent in the pre and post PPLIS. Initially, parents' identified activities, such as "learning the alphabet", "help her to recognize letters and words in the book" and "practice writing ABC", point to parents' belief in helping children recognize and produce letters and words, both orally and in print. Interestingly, the frequency of references to print increased in the post-PPLIS. However, comments also indicated a shift in parents' perceptions in that instead of focusing on words and letters in isolation, the

focus was on learning these through functional and purposeful activities such as "writing a shopping list with her", "ask my daughter to write a story", and "writing something to her Dad".

Interestingly, on both the pre and post PPLLIS, parents identified everyday activities such as going for a walk or going to the store as affording opportunities for teaching and learning literacy. However, pre PPLLIS comments tended more toward the general (e.g., "going to stores"), whereas the post comments tended to reflect the important mediating role that adults (or significant others) play in children's literacy learning such as "point out the words" or "point out the print on the bus". This change probably can be ascribed to the heavy emphasis placed on adult mediation in the PALS program.

It was noteworthy that in the pre-PPLLIS, almost all of the parents in Site D, along with one parent from each of the other sites, listed "telling stories" or "listening to her stories" as a way they supported their child's reading. References to storytelling increased considerably in the post-PPLLIS at Site E where parents tended to identify "telling stories based on the pictures". So although the number of parents who perceived "telling stories" as a way they supported their child's learning increased, there was also a shift in that whereas initially they apparently saw the oral storytelling as supporting their children's learning, at the end of the program they linked storytelling to books. This is likely an unintended artifact of the program in that we provided families with wordless picture books and discussed possible ways of using them to promote their children's vocabulary learning and language development generally.

Parenting was another theme in both pre and post PPLLIS as parents identified "treating the child fairly", "keeping the child fed and clean", and "encouraging children". Although no changes in perceptions were discernible, the frequency of comments pertaining to the role of parenting decreased, perhaps again reflecting the emphasis on language and literacy in PALS, and as noted previously, the lack of specific attention to general issues of parenting in the program.

Although not across all sites, parents identified children's drawing as contributing to literacy development in the pre-PPLLIS. Such references to drawing tripled in the post-PPLLIS, again likely attributable to the importance afforded drawing and painting in PALS. Similarly, there was an increase in parents' comments on the use of technology to support their child's learning. While on the pre-PPLIS some parents named "watching TV", on the post-PPLLIS, twice as many parents named technology and a wider array of it, including "watching DVD", "listening to CD, tapes", "listening to music", and "using computer". Although most comments tended to be general, one parent noted "When she is watching TV, for learning the new words, I stop the TV and we practice together the pronunciation of new words".

Finally, a number of parents on the post PPLLIS commented on the bilingual support they provided their child such as, "Practice Farsi alphabets", "Punjabi to English program", "asking her to memorize …Chinese characters…", "we practice together name of different things in English…". Only one such reference, "learning Chinese characters with him" occurred in the pre-PPLLIS.

To summarize, some changes did occur in parents' beliefs and perceptions over the course of the program but these were more subtle, not statistically significant and, frankly, less than we had projected. Of note was the greater emphasis on adult mediation or support, the increased emphasis on learning through functional and purposeful activities, the greater recognition of technology as a learning tool, and the increased attention to learning the home language. It should be noted that program facilitators followed a program manual containing the key ideas for each session along with suggested activities, and yet differences in parents' perceptions across sites were common.

Discussion and Conclusion

Limitations

Before the findings reported here and their implications are discussed, it is important to point out the limitations of the study. First, the lead author, Jim Anderson, was involved with the development of the program and although other people participated in the data collection and analysis and we used member checks, triangulation of data sources, and inter-rater reliability in analyzing the qualitative data, studies of the PALS program by researchers not connected with the program are needed. Second, although there is anecdotal evidence of the long term, positive effects of the program from parents, teachers and administrators, systematic, longitudinal research is needed to establish the veracity of these reports. Third, although parent self-reporting is widely used in social sciences research, it is important to point out that social desirability outcomes - the tendency of participants in survey and interview research to provide answers that they believe are socially acceptable or desirable rather than what they actually believe (Grimm, 2010; Nederhof, 1985) - might be reflected in the data.

Research has tended to show that many immigrant and refugee families tend to focus on having their children acquire English, assuming that maintaining their home languages will interfere with that process (e.g., Toppelberg & Collins, 2010; Wong-Fillmore, 2000). As a consequence, many children quickly lose their home languages, sometimes with dire consequences (e.g., Castro, Páez, Dickinson, & Frede, 2011; Wong-Fillmore, 2000). Obviously, the parents in this project wanted their children to become proficient in English and to do so as quickly as possible but the findings suggest that they also valued maintaining their home language. They identified several benefits in the bilingual format of the program for their children and themselves and demonstrated flexibility in utilizing the bilingual materials. Interestingly, the parents saw the program as a supportive context for their own acquisition of English, an outcome that was originally not anticipated but is entirely understandable, given the functional and purposeful nature of the language learning. This finding lends support to an intergenerational program model in which parents and children participate and learn alongside each other.

Although the parents were generally supportive of the program, they also had concerns, some of which we were able to address and some which we could not for various reasons. These findings indicate the need for program developers and providers to build in formative evaluation mechanisms to allow modifications and corrections to be made to meet the aspirations and needs of families. For example, Hannon (2010), a leading researcher in the area of family literacy suggests that a percentage of the budget (e.g., 5–10 %) for family literacy programs be earmarked for evaluation purposes. Writing more than a decade ago, Thomas and Skage (1998) commented, "the level of program evaluation in family literacy amounts to little more than testimonials" (p. 20) attesting to the value of each project. We believe that this situation has not improved significantly and like Hannon, we see the need for continuous critical evaluation of programs as was the case here.

Although there were some changes, overall, the relative stability in parents' beliefs and perceptions over the course of the program was unanticipated. For example, that shared book reading was identified most frequently by parents before they participated in the program as one of the five ways that they were supporting their children's literacy learning is inconsistent with previous research with immigrant families who tended to identify teaching letters and sounds and words in isolation as ways to support children's learning (e.g., Anderson, 1995; Li, 2003). This might be attributable to the ubiquitous messages about the importance of shared book reading in young children's literacy learning (e.g., Anderson, Streelasky, & Anderson, 2007; Reese, 2012) in official documents, on websites and in the popular media. However, while parents' perceptions generally remained stable in the current study, they also evolved or became more nuanced and for example, reflected a greater importance afforded to the role of adult mediation at the end of the program.

In conclusion, we believe that this study that taps the voices of parents involved in a bilingual family literacy program contributes to the literature in this area. Like Swain et al. (2014), we believe that families are central players in family literacy but they have seldom been heard from. As well, there has been relatively little research with bilingual family literacy programs. The study that we draw on here was the only one that we know of that involved a fairly large number of participants from different linguistic groups and in different communities while most of the previous research involved relatively small sample sizes and families from one language group. Finally, we have delineated some of the benefits[4] that participants indicated they derived from the program, but also the challenges and issues they identified. We contend that it is imperative that researchers working with family literacy programs attend to both.

[4] Pre and post comparisons of children's mean Normal Curve Equivalent scores on the Test of Early Reading Ability-2 (Reid, Hresko, & Hammill, 1989)., a widely used standardized measure of children's foundational knowledge of print in English revealed that the children made statistically significant gains with a large effect size. For details, please see the Final Technical Report at: http://decoda.ca/wp-content/files_flutter/1314987684PALSinImmigrantCommunitiesResearchReport-Feb2011.pdf.

References

Anderson, J. (1995). Listening to parents' voices: Cross cultural perceptions of learning to read and to write. *Reading Horizons, 35*, 394–413.

Anderson, J., Anderson, A., & Morrison, F. (2012). Working in diverse communities: A social capital perspective of family literacy programs. In B. W. Toso (Ed.), *Proceedings of the 2012 national conference on family literacy research strand* (pp. 7–17). University Park, PA: The Goodling Institute for Research in Family Literacy.

Anderson, J., Friedrich, N., & Kim, J. (2011). *Implementing a bilingual family literacy program with immigrant and refugee families: The case of Parents As Literacy Supporters (PALS)*. Vancouver, BC: Decoda Literacy Solutions. Available at http://decoda.ca/wp-content/files_flutter/1314987684PALSinImmigrantCommunitiesResearchReport-Feb2011.pdf

Anderson, J., & Gunderson, L. (1997). Literacy learning from a multicultural perspective. *The Reading Teacher, 50*, 514–516.

Anderson, J., Purcell-Gates, V., Jang, K., & Gagne, M. (2010). *Implementing an intergenerational literacy program with authentic literacy instruction: Challenges, responses, and results*. Ottawa, ON: Canadian Council on Learning.

Anderson, J., Smythe, S., & Shapiro, J. (2005). Working with families, communities and schools: A critical case study. In J. Anderson, M. Kendrick, T. Rogers, & S. Smythe (Eds.), *Portraits of literacy across families, communities and schools: Intersections and tensions* (pp. 63–85). Mahwah, NJ: Lawrence Erlbaum Associates.

Anderson, J., Streelasky, J., & Anderson, T. (2007). Representing and promoting family literacy on the WWW: A critical analysis. *Alberta Journal of Educational Research, 53*, 143–156.

Auerbach, E. R. (1989). Toward a social-contextual approach to family literacy. *Harvard Educational Review, 59*, 165–181.

Bauer, E., & Guerrero, B. (2016). Young children's emerging identities as bilingual and biliterate students. In A. Anderson, J. Anderson, J. Hare, & M. McTavish (Eds.), *Language, learning and culture in early childhood: Home, school and community contexts* (pp. 19–49). New York: Routledge.

Boyce, L. K., Innocenti, M. S., Roggman, L. A., Norman, V. K. J., & Ortiz, E. (2010). Telling stories and making books: Evidence for an intervention to help parents in migrant Head Start families support their children's language and literacy. *Early Education & Development, 21*(3), 343–371.

Brooks, G., Pahl, K., Pollard, A., & Rees, F. (2008). *Effective and inclusive practices in family literacy, language and numeracy: A review of programmes and practice in the UK and internationally*. Reading, UK: CfBT Education Trust.

Castro, D. C., Páez, M. M., Dickinson, D. K., & Frede, E. (2011). Promoting language and literacy in young dual language learners: Research, practice, and policy. *Child Development Perspectives, 5*(1), 15–21.

Clay, M. (1993). Always a learner: A fable. *Reading Today, 3*, 10.

Crossley, N. (1996). *Intersubjectvity: The fabric of social becoming*. London: Sage.

Cummins, J. (1983). The role of primary language development in promoting educational success for language minority students. In C. F. Leyba (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 3–49). Los Angeles: National Dissemination and Assessment Center.

Cummins, J., Chow, P., & Schecter, S. R. (2006). Community as curriculum. *Language Arts, 83*, 297–307.

Duranti, A. (2010). Husserl, subjectivity and anthropology. *Anthropological Theroy, 10*(1), 1–20.

Glaser, B. G., & Stauss, A. L. (1967). *The discovery of grounded theory*. Chicago, IL: Aldine.

Gregory, E. (2005). Guiding lights: Siblings as literacy teachers in a multicultural society. In J. Anderson, M. Kendrick, T. Rogers, & S. Smythe (Eds.), *Portraits of literacy across families, communities and schools: Intersections and tensions* (pp. 21–40). Mahwah, NJ: Lawrence Erlbaum Associates.

Grimm, P. (2010). Social desirability bias. *Wiley International Encyclopedia of Marketing. 2.*
Hannon, P. (2010, July). *Cultivating the research-practice connection.* Keynote address presented at the Cultivating connections: Global perspectives and practices family literacy conference, Edmonton, AB.
Hirst, K., Hannon, P., & Nutbrown, C. (2010). Effects of preschool bilingual family literacy programme. *Journal of Early Childhood Literacy, 10*, 183–208.
Kenner, C. (2004). *Becoming biliterate: Young children learning different writing systems*. Stoke on Trent, UK: Trentham Books.
Li, G. (2003). Literacy, culture and the politics of schooling: Counter-narratives of a Chinese-Canadian family. *Anthropology and Education Quarterly, 34*(2), 184–204.
National Early Literacy Panel. (2008). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy. Available at http://www.nifl.gov/earlychildhood/NELP/NELPreport.html
Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology, 15*, 263–280.
Nutbrown, C., Hannon, P., & Morgan, A. (2005). *Early literacy work with families: Policy, practice and research*. London: SAGE Publications.
Pahl, K., & Kelly, S. (2005). Family literacy as third space between home and school: Some case studies of practice. *Literacy, 39*, 91–96.
Pellegrini, A. (2009). *The role of play in human development*. Oxford, UK: Oxford University Press.
Pellegrini, A. D., & Galda, L. (1993). Ten years after: A reexamination of symbolic play and literacy research. *Reading Research Quarterly, 28*, 163–175.
Phillips, L., Hayden, R., & Norris, S. (2006). *Family literacy matters: A longitudinal parent–child literacy intervention study*. Calgary, AB: Detslig Press.
Province of British Columbia. (2014). *Strong Start BC.* Retrieved from http://www2.gov.bc.ca/gov/topic.page?id=F652EE0BCB224DC4A51BE9765B50817D
Purcell-Gates, V. (1996). Stories, coupons and the *TV Guide*: Relationships between home literacy experiences and emergent literacy knowledge. *Reading Research Quarterly, 31*(4), 406–428.
Reese, E. (2012). The tyranny of storybook reading. In S. Suggate & E. Reese (Eds.), *Contemporary debates in childhood education and development* (pp. 59–68). Oxon, UK: Routledge.
Reese, L., & Gallimore, R. (2000). Immigrant Latinos' cultural models of literacy development: An evolving perspective on home school discontinuities. *American Journal of Education, 108*(2), 103–134.
Reid, D., Hresko, W., & Hammill, D. (1989). *Test of early reading ability-2*. Austin, TX: PRO-ED, Inc.
Reyes, L. V., & Torres, M. N. (2007). Decolonizing family literacy in a culture circle: Reinventing the family literacy educator's role. *Journal of Early Childhood Literacy, 7*(1), 73–94.
Rodriguez-Brown, F. (2004). Project FLAME: A parent support family literacy model. In B. Wasik (Ed.), *Handbook of family literacy* (pp. 213–229). Mahwah, NJ: Lawrence Erlbaum.
Rogoff, B. (2003). *The cultural nature of human development*. Oxford: Oxford University Press.
Roskos, K., & Christie, J. (2001). Examining the play–literacy interface: A critical review and future directions. *Journal of Early Childhood Literacy, 1*(1), 59–89.
Swain, J., Brooks, G., & Bosley, S. (2014). The benefits of family literacy provision for parents in England. *Journal of Early Childhood Research, 12*(1), 77–91.
Taylor, D. (1983). *Family literacy: Young children learning to read and write*. Exeter, NH: Heinemann.
Taylor, D., & Dorsey-Gaines, C. (1988). *Growing up literate: Learning from inner-city families*. Exeter, NH: Heinemann.
Thomas, A., & Skage, S. (1998). Overview of perspectives of effective practice. In A. Thomas (Ed.), *Family literacy in Canada: Profiles of effective practices* (pp. 5–24). Welland, ON: Soleil Publishing.

Toppelberg, C., & Collins, B. (2010). Language, culture and adaptation in immigrant children. *Child and Adolescent Psychiatric Clinics of North America, 19*(4), 697–713.

Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Wasik, B., & Van Horn, B. (2012). The role of family in society. In B. Wasik (Ed.), *The handbook of family literacy* (pp. 3–18). New York: Routledge.

Wong-Fillmore, L. (2000). Loss of family language: Should educators be concerned? *Theory Into Practice, 39*(4), 203–210.

Zhang, J., Pelletier, J., & Doyle, A. (2010). Promising effects of an intervention: Young children's literacy gains and changes in their home literacy activities from a bilingual family literacy program in Canada. *Frontiers of Education in China, 5*, 409–429. doi:10.1007/s11516-010-0108-9.

Chapter 5
Predicting Early Writing: The Role of Parental Writing Mediation and Children's Private Talk During Writing

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Abstract Kindergarteners' emergent writing serves as an excellent measure of their understanding of the written language and as a good predictor of future reading and writing achievements. This chapter describes a study that examined the development of writing processes through a Vygotskian (1978) perspective. Fifty kindergarteners were recorded in their homes in three situations in a fixed order: (1) writing five words with parental mediation; (2) writing the same words independently; (3) instructing the writing of the same words to a hand puppet. Results demonstrate that there are positive correlations between parents' writing mediation, children's private speech while writing, children's understanding of the writing process as expressed while teaching the puppet, and children's independent writing level. Beyond this, we found that each of these variables has an independent contribution to children's writing, with the three variables together predicting 80 % of the variance in children's independent writing level.

Introduction

Vygotsky (1978) claimed that adults play a central role in advancing children's development. Within children's Zone of Proximal Development (ZPD), adult's mediation can promote children's development. Effective adult mediation helps the child to independently complete tasks that previously were completed with the adult's help. In the first phase of this process, the child completes a cognitive task along with the adult, who helps the child via appropriate scaffolding. In the second phase, the child begins to take responsibility over the task, while the adult takes a "step back" and monitors the child's activity. During the third phase, the child takes responsibility for the task using private speech. Finally, the child successfully completes the task without the use of any tools. In this chapter we apply Vygotsky's

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model to the process of writing acquisition, a cognitively challenging task. We aimed to (1) assess and describe the phases that Vygotsky described within the realm of writing: the parents' word writing mediation, children's private speech during writing, the way that the children teach a puppet to write and children's own writing level; (2) study the relations among these measures; (3) learn how parents' writing mediation and children's internalization of the writing process (depicted by their private speech during writing and teaching the puppet to write method) predict children's independent writing level.

Writing Development

Prior to entering school, children participate in writing activities such as writing names or birthday cards (e.g., Puranik & AlOtaiba, 2011; Puranik & Lonigan, 2011). They write letters of the alphabet and ask adults what they've written (e.g., Neumann, Hood, & Neumann, 2009). Children's early writing level is a good predictor of their later literacy achievements (e.g., Garcia, Abbott, & Berninger, 2010; Kessler, Cury Pollo, Treiman, & Cardoso-Martins, 2013; Shatil, Share, & Levin, 2000). Nonetheless, word writing is a complex task, and kindergartners often have difficulty contending with the writing process. This process involves the translation of the spoken word to written symbols (Berninger, Fuller, & Whitaker, 1996; Graham & Harris, 2000). Specifically, it is an aural analysis of the sounds, saying the sound to be written either aloud or to oneself, remembering which letters represent a sound (phoneme), matching the sound with a letter, and graphically expressing those letters on paper (Gvion, Friedmann, & Yachini, 2008). The writing process is challenging and children should be guided through the various stages of word writing (Shatil et al., 2000). Examining emergent writing development through a Vygotskian lens led us to explore how parental mediation and the by-products of mediation – children's private speech and their understanding of the writing process – predict children's emergent writing skills (Fig. 5.1).

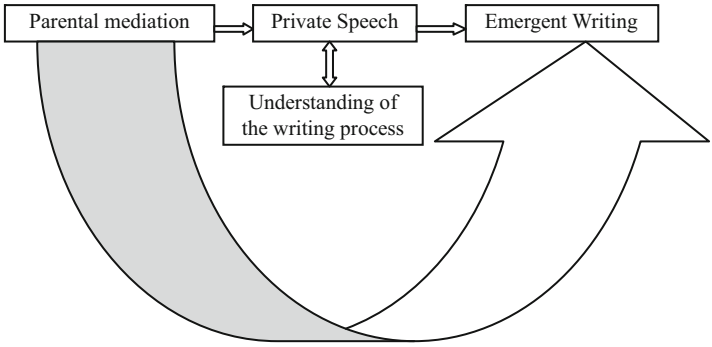

Fig. 5.1 Examining emergent writing development through a Vygotskian lens

Parental Writing Mediation

DeBaryshe, Buell, and Binder's (1996) pioneering study examined the link between the nature of maternal writing mediation and children's independent writing. They asked 5- and 6-year-old children to write a letter to another person both on their own and jointly with their mothers. Whereas the letters written independently by the children included drawings, scribbles, invented spellings, or conventional spellings; the letters produced jointly included only correctly spelled words. Moreover, jointly written letters were longer and more conventional. Alongside their requests for conventional, correct writing, mothers were sensitive to their child's abilities, leading children whose independent letters were longer and more conventional to jointly produce longer and more conventional letters.

Acknowledging the importance of parent-child literacy interactions, studies were published from the beginning of the twenty-first century examining parental writing mediation (e.g., Aram & Levin, 2001, 2011; Levin, Aram, Tolchinsky, & McBride, 2013; Bindman, Skibbe, Hindman, Aram, & Morrison, 2014). In these studies, parents were asked to help their children write words. Analyses of these interactions focused on how parents helped their children separate the word into sounds and draw connections between the sound of the letters to their graphic form and their writing. Researchers found that when mothers encouraged their children to go through the writing process in its entirety, encouraged greater independence in graphic expression, required careful writing of letters, and enriched their children in the structure of language, the children's level of emergent literacy skills were higher.

Private Speech

When transitioning from completing challenging tasks with the aid of an adult to completing them independently, children frequently use private speech (e.g., Al-Namlah, Fernyhough, & Meins, 2006; Behrend, Rosengren, & Perlmutter, 1989; Bodrova & Leong, 1998; Lee, 2011; Vygotsky, 1978, 1986; Winsler, 2009; Winsler, Carlton, & Barry, 2000; Winsler, Diaz, & Montero, 1997). Private speech is talk that is spoken aloud and is directed toward the speaker herself rather than being directed towards the surroundings (Carlson & Beck, 2009; Winsler, 2009). Private speech is significant for children's cognitive development; it serves as a tool for self-regulation and for planning actions, primarily during challenging tasks. Vygotsky (1978) posited that private speech helps children develop within their ZPD through the construction of scaffolds and supervising strategies, which help them reach a higher level of cognitive ability. In the writing process, we would expect children to utilize this private speech to direct themselves in the implementation of the task.

The relationship between private speech and the level of task implementation is dynamic (Winsler et al., 1997). Both the child's level of functioning and the demands of the task influence the relationship between private speech and task completion.

If the task is easy for the child, private speech is not necessary. As the task becomes more challenging, the child begins to use private speech focused on the solution to the task. At the same time, the more that the child succeeds in these tasks, the less need there is for private speech. At the intermediate levels of task difficulty, where the task is in the child's ZPD, there will be a positive correlation between the use of private speech and the child's level of task implementation (Diaz, 1992; Fernyhough & Fradley, 2005). The few studies that examined private speech and writing found positive correlations between private speech and child's writing development among preschoolers who do not yet write conventionally (Aram, Abiri, & Elad, 2014). However, once the child knew how to write, their use of private speech was reduced (Bodrova & Leong, 1998; Schimmoeller, 1999).

Understanding the Writing Process

In our study, we aspired to reveal children's thought processes during writing. We sought to examine the child's ability to verbally plan the steps for writing, vis-a-vis the process that was mediated by the parent. Following Forman and Cazdan's (1994) ideas, we asked children to teach a hand puppet to write the words that the child had written with their parent. Forman and Cazdan claimed that since peer instruction requires the child to provide guidance to the other, it can reflect on her understanding of the task. Examining how children taught the puppet opened a window into their understanding of the writing process.

In line with these ideas, our three research questions were: (1) What is the nature of parental word writing mediation, children's private speech during independent word writing, children' understanding of the writing process as reflected in the way that they teach a hand puppet to write words, and children's writing level? (b) What are the relations between these variables? (c) To what extend will each of the first three variables (parental writing mediation, children's private speech and children's word writing teaching method) predict the fourth variable – children's writing level?

The Study

Participants

Participants included 50 kindergarten children ($M = 66.68$ months, $SD = 7.11$), 30 boys and 20 girls. The majority of parent participants were mothers (90 %), and the majority of both mothers (88 %) and fathers (82 %) had an academic education. Before beginning the study, we verified with the parents that the participating children could correctly name at least five letters. We posited that for children with no letter knowledge, the writing task could be below the ZPD and therefore less accessible to mediation.

Procedure

Data were collected at the child's home. The meeting lasted about 45 min and included the following tasks in this fixed order:

1. Video-recording parent–child interactions during joint writing of five words that are composed of the majority of letters in the Hebrew alphabet. Parents were asked to, "Help your child as you see fit to write these words as best as he/she can."
2. Video-recording of the child independently writing the same five words. After a 10-min break, participating children were asked to independently write the five words that they previously wrote with their parents' support. The children were presented with pictures of the words on cards and were asked for example to "write the word GLIDA (ice-cream) as best you can." Parents were not present in the room.
3. Video-recording the child teaching the puppet to write the words. After a 5-min break, the children were asked to teach a hand puppet holding a pencil, to write the same five words that were written in the previous two tasks. For example, the researcher held the puppet and the puppet asked "teach me to write the word GLIDA." Parents were not present in the room.

Measures

All the videos were transcribed and analyzed.

Writing Mediation Based on Aram and Levin's (2001, 2004) coding scheme, parents' writing support of each written letter was coded for grapho-phonemic mediation. This ordinal scale reflects how the parent guides the child to achieve the most complete and independent mental process when attempting to represent a word in writing: segmenting a word into its sounds and orally retrieving the required letter name for each sound. The scores reflect the degree to which the parent facilitates the child's independent isolation of a phoneme and connecting it with the correct letter. This coding system was found valid across orthographies (e.g., Aram, Korat, & Hassunah Arafat, 2013 in Arabic; Levin et al., 2013 in Hebrew and Spanish; Skibbe, Bindman, Hindman, Aram, & Morrison, 2013 in English).

The encoding of each letter was assessed using this 8-point scale as follows: (**0**) The mother does not provide any support for the child's spelling and the child writes an unconventional outcome (writing letters irrelevant to the spelled word). (**1**) The mother refers to the word as a whole, for example saying: "Write *glida*." (**2**) The mother utters the sequence of sounds that create the word, for example saying: "Write *g-li-da*." (**3**) The mother refers to each letter separately by dictating the letter name, for example saying: "Write GIMEL" [the letter G]. (**4**) The mother retrieves the target phonological unit and immediately dictates the required letter name, for

example saying: "*g* – GIMEL" [the sound *g* and the letter name for G]. (**5**) The mother retrieves the phonological unit and encourages the child to link it with a letter name, for example asking: "It starts with *g* so which letter is it?" (**6**) The mother encourages the child to retrieve the phonological unit and to link it with a letter name, for example asking: "What do you hear at the beginning, which letter is it?" (**7**) The mother encourages the child to go through the whole process independently while supporting the child along the way when help is needed. The average score across all the letters served as a score of grapho-phonemic mediation, where a higher score demonstrated a higher level of mediation (Cronbach's $\alpha = .93$).

Private Speech During Writing Private speech was analyzed using a scale that evaluated how the child separated the word into sounds and letters. As with the mediation scale, the unit of analysis on the private speech scale was the letter. The scale contains six levels: **(0)** The child doesn't speak to herself at all while writing, and writes with mistakes; **(1)** The child says a sub-syllable. For example, the child says to herself "li, li"; **(2)** The child says a sub-syllable and name of the letter to herself, e.g., the child says "*li, li, lamed* (letter name)"; **(3)** The child says the phoneme, e.g., the child says "l, l, l"; **(4)** The child says the phoneme and name of the letter, e.g., the child says to herself, "*l, l, lamed* (letter name)"; **(5)** The child says the name of the letter name prior to writing, e.g., the child says to herself, "*lamed*." Use of this strategy demonstrates a high level since the child is segmenting the word without the use of inner speech, and uses private speech only to say the name of the letter to herself. The average of scores for letters served as the score for private speech, with a higher score demonstrating a higher level of private speech (Chronbach's $\alpha = .93$).

Understanding of the Writing Process The child was asked to teach a hand puppet holding a pencil, to write the same five words that were written in the two prior tasks (with parental mediation and independently). As with the previous scales, the unit of analysis was the letter. The scale contains five levels and evaluated the child's understanding of the writing process: **(0)** The child does not relate to the letter (ignores it or skips it and goes to the next letter); **(1)** The child does not relate to the target word (tells the doll an incorrect letter or incorrectly writes a letter for the puppet to copy); **(2)** The child says a sub-syllable aloud to herself and the name of the letter to the puppet; **(3)** The child says a phoneme to herself and the name of the letter to the puppet**; (4)** The child says the name of the letter to the puppet (or writes a correct example for the puppet to copy). The average of scores for letters served as the score for the child's understanding of the writing process (Chronbach $\alpha = .91$).

Writing Level Writing was evaluated using a scale based on one developed by Levin and Bus (2003). The scale contains ten levels ranging from low levels where the child scribbles or creates shapes similar to writing (1) or writing random letters (2), through middle levels that include partial use of consonants (phonemes) in the word (4), to the higher levels where the child writes consonants correctly with incorrect vowels (9) and correct writing (10). The writing score was the average score across the five words (Chronbach's $\alpha = .93$).

Table 5.1 Descriptive statistics (N = 50)

	Minimum	Maximum	Mean	SD
Parental writing mediation	1.00	7.00	4.70	1.45
Private speech	0.00	3.37	0.92	0.81
Understanding writing process	0.46	3.29	1.73	0.75
Writing level	1.00	9.40	5.02	2.30

Results

To address the first and second study aims, respectively, descriptive analyses and correlations were calculated for all of the study measures. To address the third aim, we conducted hierarchical regression analyses predicting children's early writing.

Descriptive Statistics

As can be seen in Table 5.1, the average level of parental writing mediation was close to level five, where the parent isolates the phoneme and encourages the child to retrieve the appropriate letter for it. For example, the parent says, "*Glida* starts with the sound /g/ /g/, which letter is it?" Children's private speech ranged between the level where the child incorrectly writes the letters with no private speech to the level where the child says the sound of the phoneme to be written aloud and writes the correct letter. On average, children tended to say sub-syllables to themselves. The large standard deviation demonstrates that children varied substantially in their use of private speech. As to children's understanding of the writing process, on average, the child said to herself the sub-syllable containing the target letter, and said the letter name to the puppet. The children's average writing level demonstrates the use of partial writing of the words' consonants with the addition of part of the vowel letters.

Correlations Between the Measures Significant positive correlations were found between all the study variables (see Table 5.2). The more the parent encouraged the child to execute the grapho-phonemic process independently, the higher the child's level of private speech, understanding of the writing process, and writing achievements. Similarly, the use of higher-level private speech by the child during writing was associated with a higher the level of understanding of the writing process and writing achievements. Further, a deeper understanding of the writing process was correlated to more conventional (i.e., fewer mistakes) writing.

Predicting Children's Writing Level To examine the relationship between each of the predictors and children's early writing and to learn about the contribution of children's private speech and understanding of the writing process beyond parental

Table 5.2 Correlations between study variables (N = 50)

	Writing level	Understanding writing process	Private speech	Parental writing mediation
Parental writing mediation	.67**	.78**	.51**	-----
Private speech	.59**	.63**	-----	
Understanding writing process	.85**	-----		
Writing level	-----			

**$p < .01$

Table 5.3 Predicting children's writing (N = 50)

Variable	B	SE B	β	R^2	$R^2\Delta$
Step 1 Parents' writing mediation	1.23	.15	.77**	.59	.59***
Step 2 Parents' writing mediation	.57	.14	.36***		
Private speech	.42	.23	.15^		
Understanding writing process	1.55	.28	.52***	.80	.13***

^$p = .07$; ***$p < .001$

writing mediation, we conducted a two-step hierarchical regression analysis. We entered the parents' writing mediation in the first step. Children's private speech and understanding of the writing process (teaching the puppet method) were entered into the regression in the second step. The level of the child's independent word writing served as the dependent variable (see Table 5.3).

In the first step, parental writing mediation explained 59 % ($p < .001$) of the variance in children's independent writing level. When entered into the regression in the second step, children's private speech and their understanding of the writing process (teaching the puppet to write) contributed an additional 13 % ($p < .001$) to the variance in children's writing level, beyond the contribution of the parents' writing mediation. Altogether, the model explained a very high level of variance (80 %) in children's independent writing level. When all the measures were entered into the regression in the second step, with the exception of private speech ($p = .07$), each of them showed a unique positive contribution to children's spelling level.

Discussion

In this chapter we examined emergent writing through the lens of Vygotsky's model of learning. We studied major measures related to children's emergent writing and studied, in light of Vygotsky's model, how children's private speech and understanding of the writing process predicts their writing level beyond the level of their

parent's writing mediation. We think that our analyses are suggestive of some interesting aspects of writing development, yet as they are correlational should be treated with some caution.

Measures Related to Children's Writing Level

A general look at parents' writing mediation revealed a relatively high level of mediation. Parents encouraged their children to follow the grapho-phonemic process independently, supporting the children when needed. It appears that the parents are aware of the importance of nurturing preschoolers' early literacy. Most of the parents in our study had an academic education and it is reasonable to assume that their high level of writing mediation is related to their education level. This supports previous research that showed that parents from middle-high SES have knowledge relating to the development of emergent literacy skills and how to advance those skills with joint parent–child activities (Aram, Korat, & Levin, 2006).

We found that children used private speech during the independent writing activity. Children tended to say sub-syllable after sub-syllable to themselves when trying to write a word independently. Interestingly, their understanding of the writing process reflected the same strategy. When teaching the hand puppet to write the words, they also tended to relate to sub-syllables. Segmenting a word to sub-syllables during phonological awareness or writing tasks is prevalent among Hebrew-speaking preschoolers (Levin, Shatil-Carmon, & Asif-Rave, 2005). Hebrew does not include words comprised of a single phoneme (Levin et al., 2005; Share & Blum, 2005). The relatively easy access to the CV sound probably reflects the relative prevalence of syllables of CV structure in Hebrew (Share & Blum, 2005).

The positive correlations between the study's variables revealed that the higher the level of parental mediation the higher the child's level of private speech and understanding of the writing process and vice versa. That is, the more the parent encourages the child to fulfill the grapho-phonemic tasks independently, the more the child's private speech and teaching of writing methods are focused and relevant (relating to sub-syllables/phonemes and letter names); the reverse is also true. A possible explanation to these correlations is that the child learns and internalizes the process of her parent's writing mediation. She learns how to use verbal strategies when she writes independently or when she teaches writing. Vygotsky (1978) proposed that a child's private speech is a gradual replacement of the adult's role as a mediator in the development. Bakhtin suggested that children "internalize voices of others" and use these voices initially as private speech to self-instruct (1981, cited in Wertsch, 1991). Similarly, Winsler et al. (1997) found that when parents and children first implemented a task together and children then implemented the task independently, the children used more private speech and succeeded more at the task.

Beyond the abovementioned relationships, significant, positive correlations were also found between parental writing mediation, children's private speech, understanding of the writing process, and the children's independent writing level. The

links between parental mediation and child's writing level are in line with previous findings (for a review, see Aram & Levin, 2011). The positive correlation between private speech and child's writing level is consistent with studies that found positive correlations between children's private speech and successful completion of tasks (Winsler et al., 1997; Winsler, Manfra, & Diaz, 2007). It should be noted that the majority of studies on private speech used quantitative methods that counted the number of words in the child's talk. In the current study, we analyzed the content of private speech. We found that children's increased use of strategies that express the grapho-phonemic process in their private speech was associated with a higher writing level. A positive relationship was also found between children's understanding of the writing process – as reflected in their teaching a puppet to write – and their level of writing. Children whose teaching included verbal strategies that reflected more of the grapho-phonemic process demonstrated higher levels of writing and vice versa. Based on this correlation, it is possible to suggest that asking children to teach and to express terms relating to the writing process is related to their successful completion of the writing task.

Predicting Writing Level

Beyond the positive correlations found between the study's variables, all the variables predicted children's independent writing level in a manner that can support Vygotsky's learning model. The order of entry of the variables into the hierarchical regression followed our theoretical approach relating to children's abilities to complete a writing task, i.e., the child's level of independent writing. According to Vygotsky's (1978) learning model, the child first writes with an adult mediating the writing process within the child's ZPD; following this, the child contends with the writing task using private speech; finally, the child successfully implements the task independently without private speech. By providing verbal labels to the writing process, it is possible to see the child's understanding of the writing process. As such, we first entered parents' mediation into the regression, followed by child's private speech and understanding of the writing process. Analysis of the regression demonstrates that all three variables together predict 80 % of the variance in children's writing level. Beyond this, each variable contributes independently to the prediction of children's writing level. This highlights the importance of each of the predicting variables to children's writing. We think that we presented central variables that predict children's writing level, despite the fact that we acknowledge other related variables, such as mother's level of education, size of family, the value placed by the parent on child's writing achievements (Dunsmuir & Blatchford, 2004), the child's SES, and home literacy environment (Aram & Levin, 2001).

Limitations, Practical Implications, and Summary

The correlational nature of this study does not allow us to determine whether the directionality of the link between parents' writing mediation and children's private speech, understanding of the writing process, and early independent writing is from parent to children or vice versa, or whether there is some other element that influences both parents and children. Only intervention studies that manipulate parental writing mediation and control for different skills in the children and families can help determine causal relations. Indeed, there is some research evidence that promoting mothers' writing mediation promotes children's early writing (e.g., Levin & Aram, 2012). The generalizability of the current study is limited to the population of upper-middle SES families, in which most of the mothers had academic education. In order to draw more comprehensive conclusions, future studies should include a more varied sample.

The practical implications of this study relate to the need to guide parents of preschoolers to mediate the writing process correctly, such that children will be able to internalize the writing process. From speaking with parents of preschool children, we learned that there are parents who worry that mediating writing tasks will make the activity seem too "school-like." There are also parents who worry that they do not know how to properly mediate writing and that only a teacher should help young children write. As previously discussed, writing is a frequent and daily activity in Western society, and as with other daily activities, it can be mediated in a natural manner. There is room to help parents who have doubts and guide them in how to incorporate writing activities into their children's daily lives (e.g., writing shopping lists, to do things, notes, birthday cards, names, labels). Along with this, the results of our study shed light on the importance of private speech and children's teaching activities. We need to raise parents' and teachers' awareness of the importance of private speech in children's development in general and the development of writing in particular. It is worthwhile to encourage children to speak to themselves while working on challenging cognitive tasks.

To sum, we suggest that parental writing mediation is important in the child's learning and development of writing. In line with Vygotsky's model, we think that the way that parents break up words for the child during writing can be adopted and become part of the child's internal language. This then serves the child when coping with independent writing tasks. Children use private speech during writing, and the verbal labels that the child approximates while contending with the writing task, whether on her own or when teaching someone else, can help the child successfully complete writing tasks.

References

Al-Namlah, A. S., Fernyhough, C., & Meins, E. (2006). Sociocultural influences on the development of verbal mediation: Private speech and phonological recoding in Saudi Arabian and British samples. *Developmental Psychology, 42*, 117–131. doi:10.1037/0012-1649.42.1.117.

Aram, D., Abiri, S., & Elad, L. (2014). Predicting early spelling: The contribution of children's early literacy, self-regulation, private speech during spelling, and parental spelling support. *Reading and Writing: An Interdisciplinary Journal, 27*, 685–707.

Aram, D., Korat, O., Saiegh-Haddad, E., Hassunha Arafat, S., Khoury, R., & Hija, J. (2013). Early literacy among Arabic speaking kindergartners: The role of socioeconomic status, home literacy environment and maternal mediation of writing. *Cognitive Development, 28*, 193–208. doi:10.1016/j.cogdev.2012.10.003.

Aram, D., Korat, O., & Levin, I. (2006). Maternal mediation in a young child's writing activity: A sociocultural perspective. In R. M. Joshi & P. G. Aaron (Eds.), *Handbook of orthography and literacy* (pp. 709–733). Mahwah, NJ: Lawrence Erlbaum Associates.

Aram, D., & Levin, I. (2001). Mother-child joint writing in low SES: Sociocultural factors, maternal mediation, and emergent literacy. *Cognitive Development, 16*, 831–852. doi:10.1016/S0885-2014(01)00067-3.

Aram, D., & Levin, I. (2004). The role of maternal mediation of writing to kindergartners in promoting literacy in school: A longitudinal perspective. *Reading and Writing: An Interdisciplinary Journal, 17*, 387–409.

Aram, D., & Levin, I. (2011). Home support of children in the writing process: Contributions to early literacy. In S. Neuman & D. Dickinson (Eds.), *Handbook of early literacy* (Vol. 3, pp. 189–199). New York: Guilford Press.

Behrend, D. A., Rosengren, K., & Perlmutter, M. (1989). A new look at children's private speech: The effects of age, task difficulty, and parent presence. *International Journal of Behavioral Development, 12*, 305–320.

Berninger, V., Fuller, F., & Whitaker, D. (1996). A process model of writing development: Across the life span. *Educational Psychology Review, 8*, 193–205.

Bindman, S. W., Skibbe, L. E., Hindman, A. H., Aram, D., & Morrison, F. J. (2014). Parental writing support and preschoolers' early literacy, language, and fine motor skills. *Early Childhood Research Quarterly, 29*, 614–624.

Bodrova, E., & Leong, D. J. (1998). Scaffolding emergent writing in the zone of proximal development. *Literacy Teaching and Learning, 3*(2), 1–18.

Carlson, S. M., & Beck, M. B. (2009). Symbols as tools in the development of executive function. In A. Winsler, C. Fernyhough, & I. Montero (Eds.), *Private speech, executive functioning and the development of verbal self-regulation* (pp. 163–175). New York: Cambridge University Press.

DeBaryshe, B. D., Buell, M. J., & Binder, J. C. (1996). What a parent brings to the table: Young children writing with and without parental assistance. *Journal of Literacy Research, 28*, 71–90.

Diaz, R. M. (1992). Methodological concerns in the study of private speech. In R. M. Diaz & L. E. Berk (Eds.), *Private speech: From social interaction to self-regulation* (pp. 55–81). Hove, UK: Lawrence Erlbaum Associates.

Dunsmuir, S., & Blatchford, P. (2004). Predictors of writing competence in 4- to 7-year-old children. *British Journal of Educational Psychology, 74*, 461–483. doi:10.1348/0007099041552323.

Fernyhough, C., & Fradley, E. (2005). Private speech on an executive task: Relations with task difficulty and task performance. *Cognitive Development, 20*, 103–120. doi:10.1016/j.cogdev.2004.11.002.

Forman, E. A., & Cazden, C. B. (1994). Exploring Vygotskian perspectives in education: The cognitive value of peer interaction. In J. Wertsch (Ed.), *Culture, communication and cognition: Vygotskian perspectives* (pp. 323–347). New York: Cambridge University Press.

Garcia, N. P., Abbott, R. A., & Berninger, V. W. (2010). Predicting poor, average, and superior spellers in grades 1 to 6 from phonological, orthographic, and morphological, spelling, or reading composites. *Written Language & Literacy, 13*, 61–98.

Graham, S., & Harris, K. R. (2000). The role of self-regulation and transcription skills in writing and writing development. *Educational Psychologist, 35*, 3–12.

Gvion, A., Friedmann, N., & Yachini, M. (2008). *Ktiva V'disgraphiyot: Al tahalich haktiva, lekuyot b'ktiva v'al hakesher shebain disgraphic l'dyslexia* [Writing and dysgraphia: On the writing process, writing impairments, and the relation between dysgraphia and dyslexia]. *Shikumada, 26*, 32–35.

Kessler, B., Cury Pollo, T., Treiman, R., & Cardoso-Martins, C. (2013). Frequency analyses of prephonological spellings as predictors of success in conventional spelling. *Journal of Learning Disabilities, 46*, 252–259.

Lee, S. W. F. (2011). Exploring seven- to eight-year-olds' use of self-talk strategies. *Early Child Development and Care*, 181(6), 847–856 doi: 10.1080/03004430.2010.494253.

Levin, I., & Aram, D. (2012). Mother-child joint writing and storybook reading and their effects on kindergartners' literacy: An intervention study. *Reading and Writing: An Interdisciplinary Journal, 25*, 217–249. doi:10.1007/s11145-010-9254-y.

Levin, I., Aram, D., Tolchinsky, L., & McBride, C. (2013). Maternal mediation of writing and children's early spelling and reading: The Semitic abjad versus the European alphabet. *Writing Systems Research, 5*, 134–155. doi:10.1080/17586801.2103.797335.

Levin, I., & Bus, A. G. (2003). How is emergent writing based on drawing? Analyses of children's product and their sorting by children and mothers. *Developmental Psychology, 39*, 891–905. doi:10.1037/0012-1649.39.5.891.

Levin, I., Shatil-Carmon, S., & Asif-Rave, O. (2005). Learning of letter names and sounds and contribution to word reading. *Journal of Experimental Child Psychology, 93*, 139–165. doi:10.1016/j.jecp.2005.08.002.

Neumann, M. M., Hood, M., & Neumann, D. L. (2009). The scaffolding of emergent literacy skills in the home environment: A case study. *Early Childhood Education Journal, 36*, 313–319.

Puranik, C. S., & AlOtaiba, S. (2011). Examining the contribution of handwriting and spelling to written expression in kindergarten children. *Reading and Writing, 25*, 1523–1546.

Puranik, C. S., & Lonigan, G. L. (2011). From scribbles to scrabble: Preschool children's developing knowledge of written language. *Reading and Writing: An Interdisciplinary Journal, 24*, 567–589. doi:10.1007/s11145-011-9331-x.

Schimmoeller, M. A. (1999). *The influence of private speech on writing development: A Vygotskian perspective.* Electronic version from: ERIC, Resources in Education (RIE). ED431326. http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED431326&ERICExtSearch_SearchType_0=no&accno=ED431326

Share, D. L., & Blum, P. (2005). Syllable splitting in literate and preliterate Hebrew speakers: Onsets and rimes or bodies and codas? *Journal of Experimental Child Psychology, 92*, 182–202. doi=10.1.1.530.6127&rep=rep1&type=pdf.

Shatil, E., Share, D. L., & Levin, I. (2000). On the contribution of kindergarten writing to grade 1 literacy. *Applied Psycholinguistics, 21*, 1–21.

Skibbe, L. E., Bindman, S. L., Hindman, A. H., Aram, D., & Morrison, F. J. (2013). Longitudinal relations between parental writing support and preschoolers' language and literacy skills. *Reading Research Quarterly, 48*, 387–401. doi:10.1002/rrq.55.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. In M. Cole, S. Scriber, E. Souberman, & V. John-Steiner (Eds.), Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1986). *Thought and language*. Cambridge, MA: MIT Press.

Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.

Winsler, A. (2009). Still talking to ourselves after all these years: A review of current research on private speech. In A. Winsler, C. Fernyhough, & I. Montero (Eds.), *Private speech, executive functioning and the development of verbal self-regulation* (pp. 3–41). New York: Cambridge University Press.

Winsler, A., Carlton, M., & Barry, M. (2000). Age-related changes in preschool children's systematic use of private speech in a natural setting. *Journal of Child Language, 27*, 665–687.

Winsler, A., Diaz, R. M., & Montero, I. (1997). The role of private speech in the transition from collaborative to independent task performance in young children. *Early Childhood Research Quarterly, 12*, 59–79. doi:10.1016/S0885-2006(97)90043-0.

Winsler, A., Manfra, L., & Diaz, R. M. (2007). "Should I let them talk?": Private speech and task performance among preschool children with and without behavior problems. *Early Childhood Research Quarterly, 22*, 215–231. doi:10.1016/j.ecresq.2007.01.001.

Chapter 6
What Brings Children to Writing and Energises Their Early Writing Efforts?

Sue Lyle and Anna Bolt

Abstract This chapter discusses the acquisition of literacy through the Storytelling Curriculum. Assuming children are natural authors we privilege children's imagination as a source for meaning making. The technical skills of literacy are acquired as a by-product of the social practices engaged in. Detailed understanding of the impact of the approach comes from a case study. Teachers immersed the children in story; fairy tales, picture books and the children's own dictated stories and provided opportunities for role-play and other dramatic devices for storying. Children's dictated stories were transcribed and discussion of grammar, punctuation and spelling undertaken with each child. After two terms children in the study had moved to independent, high quality, narrative writing. Standardized reading tests showed gains of between 1 year and 3 years 6 months. Where story, enjoyment and the imagination are at the heart of the writing process children are energised to compose story and learn to write by creating and dictating stories.

Introduction

The study is grounded in a sociocultural approach to literacy (Cazden, 2001; Cook-Gumperz, 2006; Gee, 2015; Heath, 1983; Street, 1984). This body of work argues that the traditional view of literacy as a set of decontextualized skills that can be measured is deeply inadequate (Gee, 1991). In contrast, a socio-cultural approach seeks to conceptualise literacy as a social practice (Perry, 2012). Mindful of Janks' (2010) caution that the binary thinking that sees literacy either as a set of cognitive skills or a set of social practices is not helpful, we argue that the technical skills of learning to read and write are acquired as a by-product of the sociocultural practices engaged in by learners. Sociocultural approaches arise from the work of Vygotsky (1986) where learning takes place between people, mediated by tools or signs

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(Wertsch, 1991), first on the social plane (intermental) and later on the individual plane (intramental) (Vygotsky, 1978).

Following Vygotsky's theory (Vygotsky, 1986), the project described in this chapter took as its starting point the view that oracy is the foundation of all literacy learning, as reading and writing build on listening and speaking in interaction with others. Building on this, the claim that narrative understanding is the primary meaning-making strategy (Booker, 2004; Bruner, 1990; Egan, 1989, 1998; Egan & Judson, 2015; Hardy, 1975; Rosen, 1985) was taken seriously so that classroom practices utilised the narrative mode to plan for children's literacy development. As argued elsewhere (Lyle, 2000), if narrative understanding is the primary mode of understanding, then it should be the starting point for planning and organizing the curriculum and classroom processes.

The work of Egan (1989, 1998, 2006, 2010) has been theoretically important to the development of the Storytelling Curriculum. He focused our attention on the power of children's emotions and imaginations, by alerting us to the abstractions of the fantasy world of the young child and their capacity to engage with metaphor. Egan (1989) further argues there is no cognitive gain without emotional engagement. Unless children care about the topic a change in cognition will not follow – it is not a case of either/or, for true learning to take place children must be engaged both cognitively and affectively. Egan (1989) argues that this can be achieved with a good story.

The Storytelling Curriculum also draws on the work of Vivian Paley. A kindergarten teacher for 37 years, Paley (2004) argues that anyone who spends time with young children will quickly recognise their passionate attachment to fantasy and their need to create, tell and act out their own narratives. In Paley's classroom children were encouraged to tell their stories to an adult who wrote them down, thus taking away the need to write, spell and punctuate. As they dictate their stories the children become authors and their stories become part of the class reading as either the teacher or children read their stories to the class (Cooper, 2009), often accompanied by dramatic enactment of the stories by the children (Paley, 1981).

If children are to become authors of stories they need wide exposure to storytelling, in particular traditional fairy tales. As Egan (2010) has argued, the fairy tale, with its binary opposites mediating abstract concepts, provides a wealth of imaginative stimulus and emotional engagement for the young child. Paley (1981, p. 128) tells us, "Fairy tales stimulate the child's imagination in a way that enlarges the vocabulary, extends narrative skills, and encourages new ideas."

The case study examined the impact of introducing the Storytelling Curriculum on the reading and writing development of children, age 6–7. Children in Wales are entitled to start school the day after their third birthday and follow the Foundation Phase (aged 3–7) curriculum (DCELLS, 2008). The Foundation Phase advocates a developmental, experiential, play-based approach to teaching and learning that is compatible with our approach to literacy development.

The Present Study

The case study examined the impact of the Storytelling Curriculum on children's (aged 6–7 years) narrative writing over 1 year. This project sought to develop an understanding of literacy development through a mainly qualitative case study of classroom practice (Yin, 2009). The research questions driving the study were:

1. What impact does the Storytelling Curriculum have on the story writing and reading of children aged six to seven?
2. How do children aged six to seven respond to the Storytelling Curriculum?
3. How do teachers respond to the Storytelling Curriculum?
4. What impact does the Storytelling Curriculum have on reading levels?

A wide range of data was collected for analysis including the following:

- Analysis of children's dictated stories;
- Narrative interviews with individual children (7 children);
- Discussion with the whole class of children (26 children);
- Narrative interviews with the class teacher, HLTA (Higher Level Teaching Assistant) and head teacher;
- Teacher research diary;
- Results of standardized tests.

Participants

The head teacher (and second author, Anna) approached me with a request to help her introduce a more narrative based approach to developing literacy in her school. We had had previous involvement when the first author (Sue) supervised Anna's MA thesis. This school became the main focus for the study. Anna, the Year 2 teacher and her class of 29 children were involved. Six months later three teachers from a second school and children from their Year 1 and Year 2 classes joined the project.

Implementation

In September, Anna invited me to carry out a half-day training for her primary school staff in the principles of the Storytelling Curriculum. Following this teachers were asked if they wished to be involved in a research project and Sian, the Year 2 teacher, volunteered to implement the ideas in her classroom and to be involved as a co-researcher. In October Sian told the children about the research project and together they designed a 'storytelling' table in the class. The children were invited to the storytelling table to dictate their stories. Sian also planned her curriculum

around story, sharing a wide range of stories every day and using puppets, dressing up and role-play to support storytelling and dramatization across the whole curriculum. A fantasy role-play area was established with dressing up clothes and props to encourage dramatic story creation. A story stage was built outside for presentation of stories and in the classroom masking tape was used to delineate a story-telling space.

A second school, having heard about the project at a Head Teacher's meeting, asked to be involved. Following this, three Foundation Phase teachers visited the case study school and then requested training for themselves. Three teachers had a half-day training before introducing the Storytelling Curriculum in their classes.

Data Collection

In the case study school 2 weeks after introducing the project all the children had voluntarily dictated a story. For a term (12 weeks) children had the opportunity to dictate a story every week. The stories were transcribed and became a focus for analysis. After a week some children started to bring stories into the classroom that they had written spontaneously at home and this continued throughout the year until all the children had shared stories written at home. Sian explains:

> ...'cos they had listened to so many stories, dictated so many stories, re-told so many stories and heard so many stories they were very keen to write stories. Started coming in in the morning with stories they had written at home – I could tell they loved it because they were doing it at home and bringing them in. And again that encouraged more of them to do it because I was thrilled to listen to these stories and they all wanted to follow suit. Parents were getting involved as children dictated to parents and the story would come in to me.

In addition to the story dictation sessions, Sian held daily storytelling and story-sharing sessions and each child had the chance to share their stories with the class. Drama played an important part in the project as the children created stories using puppets and role-play in the fantasy role-play area and these stories often became dictated or written stories.

Sian did no formal teaching in either reading or writing with the whole class. However, some of the children in the class were targeted for specific support in literacy. They had been identified through the results of the All Wales Reading Test administered before the project began to establish baseline data. This indicated six children needed additional support in reading, and a further six had additional learning needs. A specialist higher-level teaching assistant (HLTA), provided in-class targeted support twice a week for these children in two 15-minute one-to-one sessions. Other than this all the children followed the same Storytelling Curriculum.

Having transcribed the stories Sian worked beside each child on a one-to-one basis to enable them to see the purpose of punctuation and to discuss spelling and grammar as they either listened to her read their stories or read them themselves. As she explains:

When I show them the written story and they are reading back to me, I pick out the punctuation.

By January the vast majority of the children indicated their wish to write their stories independently and Sian started working with groups of children to compose group stories.

Key Findings

Question 1: What impact does the Storytelling Curriculum have on the story writing of children aged six to seven?

Eighty-three stories (two or three from each child in Sian's Year 2 class and 23 from the second school) were analysed and coded in a number of different ways. The initial coding focused on analysing the narratives for evidence of five key story elements: character, setting, plot, rift and resolution. This would indicate whether or not narrative structure as a literary tool was available to the children. This first coding revealed that many children drew on a range of influences from different narrative genres to aid their storytelling, including fairy tales, film and TV. A second round of coding identified the different genres and stories were coded using three categories: (1) *actual*, involving accounts of past events that happened or could have happened; (2) *fantasy*, events that could not have occurred; and (3) *actual-fantasy*, when children mixed real events with fantasy events. Some children used their stories to explore concepts and a third round of coding identified these concepts. Finally, stories were coded for narrative style and whether the children were using a first- or third-person narrative and looked to see if this changed over time. During coding two different variables were identified; gender and differences between the first, second and third stories which were considered in relation to the coding as a whole.

Initial coding: narrative structure

All the children were able to dictate simple, coherent stories from the start, and the length and complexities of their stories increased over time. They clearly understood how stories work and what stories are composed of. By their third story the majority of children had characters, setting, plot, rift and resolution. Early stories lacked a plot or rift in the plot, but all had a beginning, middle and end.

All stories had temporal markers that were usually established in the opening line of the story. Most beginnings and endings were similar to traditional stories. Forty-three stories started with 'Once upon a time' and the majority were variations on this, such as 'There once was…', 'One fine sunny day…', and so on. Endings were overwhelmingly happy – only six stories had sad endings and five had neutral endings.

Only 12 stories had non-temporal beginnings. In terms of narrative style the majority were fantasy, or a combination of actual and fantasy, with a minority being

actual and possible stories. Only four children included themselves as characters. Every story, except one, was written in a third-person narrative.

Second coding: narrative genres

Similar to the findings of Appleby (1978) and Nicolopoulou, McDowell, and Brockmeyer (2006), many of the stories overlapped with the child's everyday world; family members and friends appeared in stories as well as fictional characters from film and television. Some children provided recounts of traditional stories and others adapted and changed these stories, while others provided completely original fantasy stories. The key influences on children's stories were fairy tales or fables (28 stories) (reflecting the frequent telling of these stories in class), film or TV (18); 10 had a mixed influence and 17 had a real world influence. Actual stories involving accounts of past events often revolved around football for boys; the quality of the writing was high and clearly influenced by professional football commentaries. The following example from the beginning of a football story written independently by Ivan, a Philippine boy with English as an additional language, age 7, 5 months into the project, illustrates this (Fig. 6.1):

> One day Swans were getting ready to beat Liverpool. Swans took kick-off. Danny Graham tried to shot, but Pepe Raina did an awesome save. Pepe Raina kicked the ball. Lewis always had the ball but all of the defenders couldn't catch him until he scored a brilliant goal. It was half-time. Swans were not happy, because Swans don't usually lose. Liverpool took kick off. Andy Carroll had the ball, but Ashley Williams did a dangerous sliding tackle, which hit Andy Carroll's head. Without hesitation the referee showed the red card.

Fig. 6.1 Ivan on the storytelling chair

The spelling, punctuation and grammar were as reported above.

The superhero was a feature of some stories (11), overwhelmingly by boys (10). Some superheroes were the invention of the child, for example a series of stories about 'Cat Girl' by the only girl who included a superhero; others featured well-known superheroes including Superman and Batman. Fourteen (overwhelmingly girls, 11) included royalty (princes, princesses, kings and queens). Animals also featured in stories as pets or as main characters (15 stories), equally spread between boys and girls, whilst a person (boy/girl or man) was the third most popular main character (12), split 2:1 between boys and girls. The most popular settings for stories were a castle (15), a forest or wood (11), again reflecting settings in traditional stories. Ten stories were set in the home with characters engaging in leisure pursuits, holidays or visits to theme parks and were frequently accompanied by eating food. These stories give an insight into ways in which the children mediate their dealings with others and show their perceptions of the social world and how people act in different contexts. In line with the findings of Pitcher and Prelinger (1963) the stories grew more complex over time, the difference between stories written only one month apart was dramatic in terms of number of words, characters, incidents and complexities of plot and use of imagination.

Comparable to findings by Appleby (1978), from the first to third story, almost all had shifted away from the world of the child, the home and familiar surroundings towards more fantasy. In Appleby's research there was a gradual shift from completely realistic to intermediately distanced and finally, pure fantasy worlds. The girls in Appleby's sample told more realistic stories than boys; whilst boys ventured further afield, girls remained closer to home. This was also the case in this research. As age rises there is a gradual expansion in the scope of the world dealt with in stories, and a gradual shift towards more fantasy in the action as a whole. The following is an example of the beginning of a fantasy story from Caitlin, age 7, written independently towards the end of the project (Fig. 6.2):

> Once upon a time there was a wave, it was an ancient wave, not a normal wave, it never washed away.
>
> There was a boy that was absolutely, enchantedly in love with that wave because he was a surfing boy. But there was one thing he never knew – there was the most hungriest clam in all the universe under that wave.

Coding three: exploration of concepts

An interesting feature of some stories was the exploration of concepts. Vygotsky (1986) identified true narratives as ones that explore concepts. The most common concept explored was coded as conflict and 16 children included this concept in their stories (14 boys). The second most explored concept was magic (9) and the third friendship (8). It is through story writing that children's affective responses can be examined as they explore concepts through the creation of their narratives. The following extract shows the beginning of a story exploring the concept of secrets from Alana, age 6, written independently.

Fig. 6.2 Caitlin with her painting that inspired her storywriting

> One day there was a girl called Maisy. She loved her garden. Every summer holiday she watered her flowers, but her mum and dad kept a secret. It wasn't just a garden, it was a secret garden because there was a secret flower that could do anything. Her mum and dad were very good at keeping secrets and there were lots of secrets that Maisy didn't know.

Summary

Overall, the analysis revealed the children as competent and confident storytellers able to draw on a wide range of characters, settings and plots to express their creative imaginations. Sian noted one child's comment in her journal, "R. said, 'if you read us stories it will make us better story tellers.'"Interviews with the children provided more insights into the children's thinking, which was the focus for the second research question and is explored in the next section.

Research question 2: How do children respond to the Storytelling Curriculum?

Extended interviews with seven children and one whole class discussion took place. Each time children were asked one narrative question: "What do you like and not like about the Storytelling Curriculum?" In the first two interviews both children introduced the concept of imagination:

> Ella: I think it's good for us to write and read stories because when you do it helps with your imagination,'cos you can write stories down and think more about your imagination.

Following this, in subsequent interviews I asked children if their imagination was important to them and all talked about their imagination and how it helped with

story writing. Imagination emerged as an important factor in promoting children's writing and the interviews were coded for this theme.

Theme 1: Imagination

The following extracts indicate that all children interviewed talked about their imagination.

Caitlin: My imagination gives me ideas for stories and my brain asks me questions. Writing stories makes me more imaginative and [so does] listening to stories.

Maddie: I like imagination'cos sometimes it can be funny'cos you can make up all kinds of characters and everything and then you can make a story – put them in the story.

Leo: Listening to other people's stories and they listen to yours you probably get a better imagination and you get better ideas to put in your stories.

George: It makes me feel happy when I can write about my own ideas, ['cos] I can't learn if I'm told what to write about and that makes me sad… I learn from what's in my head.

Sam: I learn to write stories from my head, I don't need the teacher. I have imagination to do stuff. Children think about their imagination a lot.

In the whole-class discussion I asked if imagination helped with their story writing: all agreed. I asked *how* it helped and they talked at length about using the fantasy role-play area of the class and using puppets and small world play to plan and dramatize stories using their imaginations. A second theme to emerge, therefore, was the value of drama techniques to support story creation.

Theme 2: drama techniques

Children frequently commented on the value of acting out stories on the story-stage:

Alana: I think it helps to do puppet shows,'cos when you do puppet shows you don't really see yourself and its better'cos when you think you are more confident you can read it on your own and if you're shy to read it out you can do a puppet show.

Children also discussed how acting and role-play helped them to improve their writing skills:

George: Going into the area when it was like a play area when you use your imagination and what you want to be, sometimes it can help you do some stories it can, you can think of stuff in your mind and write it down on a piece of paper and you can act it out and get some other people to help you and get ideas from them… I think the role-play area is what helps you make up stories in your mind and write them down.

This comment was made during the whole class interview and I asked if others agreed with George and all but two of the class put their hands up. The value of embodying stories was mentioned frequently:

It's better acting than just practising reading and doing speaking and when I do it in front of everybody I get confident to write it down.

Working with others in the role-play, puppet or small world area to develop stories was also important to the children:

Their [other children's] imaginations are really good, just like mine and it's really fun working with them.

This finding has implications for how the teachers promote children's exploration of stories using a range of dramatic strategies.

Theme 3: Peer feedback

A third theme to emerge from the interviews is the importance of peer feedback that was invited when the children shared their stories with the class and when they collaborated in small groups to create stories. Children claimed it helped them improve their story writing and it clearly developed metacognition, as these children's responses suggest:

Marcus: You get more ideas from sharing your ideas.
James: When they speak I can get ideas about what I want to say.
Sam: I like my friends telling me how to write my stories better.
Ella: Their [other children's] imaginations are really good, just like mine and it's really fun working with them.
Megan: If you write lots and lots of stories and read them to the class you can get better and better and when you are older you could become an author.

The data indicated that daily sharing of their stories read aloud created a feeling of belonging to a community of writers and readers and impacted positively on classroom relationships (Dyson, 1989). Children also recognised the value of writing to learn and this became a fourth theme.

Theme 4: Writing to learn

Most of the children thought that they learned about the mechanics of writing through writing stories, as the following comments illustrate:

Ella: Sometimes people understand their own writing, but sometimes people don't, so when you write you get better at writing and then you can understand your writing so you can read more stories.
Ivan: When I see my story or when I open a book I can see some punctuation and then when I write a story I can remember to put in a full stop, or an exclamation mark or a question mark.
Caitlin: I often start my stories with a drawing or painting I have done and this helps me to create a story like in this one (see extract above).
James: If you are imagining an imagined story… you just think like it's coming out of the back of my head – I don't know what's going to happen, but when you're writing a football story you think, right OK, I'll just write something about Scott Sinclair or someone… this is easier for me because you know what he's going to do and that comes from the front of my head.

The present study suggests that children's confidence as writers comes about because they are writing for themselves for their own purposes, because they have control over what they write, when they write it and for whom. Children showed high levels of metacognition when talking about story writing, which indicates ownership of the process from the initial decision to write through to the final execution. As Nicolini (1994) found, by giving children the opportunity to decide what to write about (either through oral dictation or independent writing) and when, it shifts power from the teacher to the child and makes learning more meaningful because the stories belong to them. Our data supports Black's (2008) argument that telling lots of stories and providing opportunities for story creating with others helps

children develop language for writing. It also supports the view that literacy is a social practice and is always embedded in socially constructed contexts (Heath, 1983; Street, 1984). Following Egan and Judson (2015) and Paley (1981, 2004) the data indicates that imagination is a key tool of learning and curriculum organised around story is a powerful tool for learning.

Research question 3: How do teachers respond to the Storytelling Curriculum?

Narrative interviews with the four teachers were recorded at the end of the project in response to one key question: "Tell me about the Storytelling Curriculum". Interviews lasted between 40 min and an hour and a half. Teachers were not given the question in advance and no further questions were asked. Further interviews took place with Sian at the beginning and twice during the project in response to the prompt, "Tell me how it is going". Anna and I met regularly to discuss the project and our discussions were recorded. The HLTA involved in literacy support in Sian's classroom was interviewed once at the end of the project. She was asked about the progress of the targeted children in literacy and her opinion on the impact of the Storytelling Curriculum. Interviews with the teachers were transcribed and analysed for emerging themes. The first theme to emerge from the interviews was the positive impact on teachers and children.

Theme 1: positive impact of the Storytelling Curriculum

All four teachers valued the opportunity for one-to-one interaction with the children and found the project emotionally rewarding as they interacted with all the children on an individual basis to write down their dictated stories and later to share the written stories with the children and discuss the secretarial aspects of writing a story down. They valued being able to tailor their interactions to meet each child's needs, as these comments highlight:

> Lovely to have that chance as a teacher to hear their individual voices.
>
> You were able to respond as a teacher to their story there and then – this is how you could make it better – instant target setting.

Sian's reflective journal also provided insight into her reflections during the project:

> What has surprised me is that some of the children of lower ability or the quiet/shy children were able to tell the more imaginative stories.

Teachers also valued the sessions where children shared their stories with the class and believed this was also a catalyst for story writing. These sessions were an opportunity for peer assessment, which helped the children to improve their stories. Such sessions took place every day. In hindsight I should have asked for more detail about the focus for these sessions and whether or not the children had input from the teacher on evaluating stories. Some clarification of what Sian meant by a 'good' story would have helped here:

> When we were reading the stories back and they were seeing what a good story looked like…peer assessing went really well.

> Everyday children would come in with the stories they had written at home and wanted to share them with the class.
>
> We've had a lot of children wanting to write stories – in terms of their writing it has really brought their writing on and made them confident in their writing.
>
> T. would not normally choose to record by writing and has very poor pencil control. However, today he brought in two stories from home made into little books. He enjoyed reading them to the class. (Sian's Journal)

Sian also transcribed in her journal comments from parents written in the children's learning journals:

> "J has been enjoying writing lots of stories at home this week". (Sian's Journal)

The journal also notes that lots of children brought in storybooks from home to share with the class that they were reading at home. One child brought in stories with "…mainly images. He used these [pictures] to tell his story to the class."

There was excitement and enjoyment for the teachers involved. For one teacher the project reminded her of "the joy of being a child and having an imagination and loving stories." Teachers reported, "We underestimate what they are capable of when they don't have to write it… [the project] was quite enlightening."

Teachers stated that the time that had been given to reading stories and using role-play, puppets and other dramatic techniques had energised the children to write and the quality of their writing improved over time:

> Children have been given time to read and be read to, to hear each other read, and to read their stories to the class.

Reading to the class was used to monitor children's oracy. In the case study school the head teacher observed the storytelling sessions and found that most of the children:

> …have become really proficient readers who are able to read with feeling, correct intonation, expression, excitement and pause for effect. They read their stories with obvious enjoyment and pride.

Teachers said this approach supported children in their quest to gain access to the meaning of their own lives and the lives of others who share their classroom worlds supporting the work of Steedman (1982) and contrasted the Storytelling Curriculum with the highly structured approaches to teaching literacy with which they were familiar. This reflection on the teaching of literacy became a second theme arising from the data.

Theme 2: Reflection on teaching literacy

The intention of the Foundation Phase curriculum, introduced in Wales in 2010, was to establish a play-based curriculum with an emphasis on creativity and imagination: 7 Areas of Learning to be delivered through practical activities and active learning both indoors and outdoors were identified (DCELLS, 2008). Despite the curriculum, the approaches to literacy teaching used by all the teachers prior to the project remained focused on very formal, step-by-step skills-based approaches that had been a feature of the Key Stage 1 curriculum (age 5–7) that it replaced. Teachers

had strong beliefs that literacy (reading, writing and oracy) development is linear and hierarchical and can therefore be broken down into clearly defined steps to be taught at specific stages. Ironically, this step-by-step approach is now endorsed by the Welsh government following the revision of the Foundation Phase in 2015 (DES, 2015) where outcome criteria is hierarchically organized and skills-focused.

Sian reflected on her previous view that it was her job to determine the activities carried out by the children in her class, and that teaching should control learning, as she suggests.

> Before the story writing project I was quite regimental in the way I taught story writing.

In the second school another teacher commented:

> Children are so demoralized with the reading scheme – it makes the children so competitive – colour of the books – they can see it straight away. This is so refreshing.

Sian revised her previous understanding of how to promote literacy as she witnessed children's responses to the new approaches.

> I haven't taught them how to write – it just seems to come naturally. They go to the story table in free time and I'm fighting them off to be honest – only two can sit at a time so they know they can go to other areas in the room to write and they do.

Teachers' notions of the 'ignorant' child who needed to be taught how to write stories in the second school was thus disrupted and the success of the approach led them to question the way they had always done things.

> I think it is more beneficial for feedback and peer assessment rather than me standing at the front and teaching. I do feel like a bit of a cheat – I haven't done much – it's all them.

Evidence indicates the Storytelling Curriculum is emotionally satisfying, supporting Hargreaves' (1998) argument that successful teaching involves an emotional understanding of the learner's position. Teachers acknowledged that without the support of the head teacher they would not have been able to adopt this approach as the pressure to teach literacy in a systematic way is strong because of its links to formal testing and teacher assessment with its focus on handwriting, spelling and grammar coming from a statutory national curriculum (DES, 2015). Phonics is now the government recommended classroom strategy for early literacy in Wales. Literacy (mainly reading and writing) is a major focus for school inspection carried out every 4 years (Estyn, 2011).

Research question 4: What impact does the Storytelling Curriculum have on reading levels?

There was a dramatic improvement in children's reading in the case study school. All the children were given the All Wales Reading Test in September before the project began and were re-tested in May (The tests are now available online at http://readingtest.org/joomla/index.php?option=com_wrapper&Itemid=27). At the time of the research the test was being piloted by the Welsh government and was designed to identify children with reading difficulties so they could be targeted for extra support. The maximum score that could be achieved on the test was 47, which trans-

lates as a reading age of 8 years 11 months. The test does not measure reading beyond that.

The post-test showed that over the course of the year all children had made expected progress for their age (9 months) and the majority – 23 of 25 tested – had exceeded that. Fourteen had increased their reading age by 1–2 years and 9 by between 2 years 1 month and 3 years 6 months. In September 12 children had been identified as needing additional support. Testing in May indicated that no child needed additional support as they went into year three. It would seem that those with additional needs in literacy thrived with the specialist support provided by the HLTA that was differentiated to meet their specific needs alongside the Storytelling Curriculum. In interview Sian found the Storytelling Curriculum inspirational:

> It does your heart good. If we can do that for them – what a gift. At the beginning of the year they said, 'I can't do it', now they all believe they can do it. It's lovely to see how they support and help each other.

The results of the lowest-achieving children show six of the seven were boys; four of these have identified Special Educational Needs (SEN). The lowest-achieving child in September was a girl (birthday in August) who increased her reading age by 1 year 9 months, suggesting that maturity may have been an important factor in the baseline test. Looking at the highest-achieving children, four were boys and three girls and if we look at those who made the most progress (2.1–3.6 years) there are six boys and three girls. This suggests that there is no gender difference, apart from the children with SEN. However, all but one of the seven lowest achievers in the first test are summer babies and therefore amongst the youngest in the class, something that should be taken into account.

Summary and Conclusions

Overall, the evidence suggests that children's imaginative participation in story through listening to stories and creating their own stories using dramatic devices stimulated the creation of oral stories that were written down by teachers and shared with the class. Each child's dictated story provided the opportunity for discussion with their teacher with a focus on spelling, punctuation and grammar, and later for peer review as they were read to the class and the content was evaluated. These activities energised their writing efforts within one school term. As children appropriated the mechanics of writing for themselves their writing skills developed for their own purposes.

High levels in oracy, reading and writing were achieved as the head teacher reports:

> We're not a year down the line yet, but standards have risen dramatically. And yet we haven't had to do that much. The children are writing because they want to write – they are in charge of it. The teacher is the facilitator, we haven't ticked any boxes or done any formal tracking, but by the end of the year the children are in excess of what we thought they would

> attain without us doing any formal teaching. The children choose how, where, when and what to write – there are no constraints. Now they are going to Year 3 with massive writing skills and a love of storytelling and writing.

It would be premature to draw firm or generalizable conclusions on the basis of data analysed here; however, evidence suggests that when children are allowed to choose when and what to write about and have the opportunity to develop stories using dramatic techniques, all children are motivated to write. Story dictation and subsequent telling of their stories to the class, combined with one-to-one sharing of their stories with their teacher, led to high levels of achievement in dictated and independent writing. The research provides support for the arguments of Egan (2006, 2010), Paley (1981, 2004) and Nicolopoulou, McDowell, and Brockmeyer (2006) that immersion in story, role-play, puppets and other drama-based approaches support high levels of achievement in speaking, listening, reading and writing.

The contrast with a drilling-and-testing approach to writing is marked. The children appropriated the skills of writing, they weren't taught them; they used writing for their own communicative purposes as they were driven to produce stories. The move away from a transmission approach to teaching writing, and a step-by-step planned approach to literacy development had no negative effects on children's outcomes. Those children identified with additional learning needs were provided with direct skills teaching by an HLTA, suggesting that direct teaching of literacy skills may be beneficial for those children experiencing difficulties, but is not necessary for the majority of children. This builds on a body of research which argues for the beneficial impact of story telling on children's literacy development and motivation to learn (for a review of literature see Miller & Pennycuff, 2008).

This is not to suggest that other genres of writing will come as naturally to children as story writing does. This research suggests that children can learn the basics of reading and writing through engaging in the sociocultural practice of creating their own stories to be shared with others (Nicolopoulou, 2010). This provides a strong base to move on to other genres of writing later.

Implications for Literacy in the Early Childhood Context

The curriculum should draw on children's innate understanding of narrative (Bruner, 1990) to help them become authors. A curriculum where children engage with story everyday through listening to, telling and creating stories through dramatic play, is necessary for the Storytelling Curriculum approach to be successful (Egan & Judson, 2015). Children need to be immersed in a rich variety of stories that include fairytales, picture books and books children have created themselves (Paley, 1984; Cooper, 2009). Children need opportunities to listen, act out and produce their own stories. Continual provision should be made for role-play, puppets, small-world play and other drama-based approaches to engage the affective that Egan (1998) argues is prerequisite for cognitive attainment.

Children need to be given choice over their writing and be allowed to tell any story they wish at their own pace, reflecting their own interests and concerns. Adults should be available to write down or audio-record children's stories for transcription. Children should not write as a response to instruction, offers of rewards, or threats of punishment, rather they should be invited to take part in the sociocultural practice of literacy where children's disposition towards narrative activities are supported as they engage with stories through drama, role-play, story composition and writing to enrich the social context in which literacy is developed (McEwan & Egan, 1985). Their everyday interaction in the life of the classroom and the cultural world of the home (Heath, 1983) should create opportunities to write for fun and enjoyment. When children had choice in story creation and writing the stories reflected their worlds, their interests, their concerns and their imaginations (Appleby, 1978; Egan & Judson, 2015). Such an approach is congruent with the Foundation Phase (DCELLS, 2008) in its initial conception, but clashes with recent revisions (DES, 2015). It supports the argument that narrative understanding is the primary meaning making tool that has the potential to enrich the social context in which teaching takes place (Bruner, 1990). The research supports Egan's (1989) argument for teaching as storytelling.

The Storytelling Curriculum changes the ways in which teachers and children interact around literacy. The epistemological position that narrative is the primary meaning making tool drives the construction of curriculum to ensure children are immersed in story and story-related activities. Children's story creation is supported by valuing the kinaesthetic and the visual and by assuming they are authors right from the start. Teachers need to believe children have the capacity to create their own literacy events and practices (Heath, 1983). Valuing the power of the imagination, children's stories begin orally and visually and become written artefacts as teachers and children write their stories down. In this way the literacy practices of the children emerge from other communicative modes.

Opportunities need to be provided for teacher-child dialogue after the dictated stories are transcribed for sharing with the children. One-to-one feedback to each child to discuss grammatical features of the writing is necessary to support progress. Teachers using this approach should expect to increase their understanding of the children in order to set individual targets.

As well as story dictation and independent writing, a collaborative approach to story making should be encouraged (Dyson, 1989). Collaboration impacts on the quality of the relationships between the children: in this study they became more cooperative, more collaborative and respectful of each other's ideas and contributions. Drama-based activities created an arena for collaborating and experimenting (Nicolopoulou et al., 2006). Story sharing should be a public affair so children's compositions can be read, acted out and peer-assessed.

Teachers should engage in critical reflection on teaching literacy (Gee, 1990). The teachers in this study became more reflective on the process of learning to be literate and gained a deeper understanding of teaching and learning processes. All expressed dissatisfaction with a step-by-step approach to teaching literacy skills,

citing check-lists, targets and assessment scores as a burden that accompanies the performative agenda driving current transmission approaches to teaching literacy.

References

Appleby, A. N. (1978). *The child's concept of story: Aged two to seventeen*. Chicago, IL: University of Chicago Press.

Black (2008) Literature based storytelling: Read one, tell one. In: S. Miller & L. Pennycuff (Eds.). Retrieved March 23, 2008, from www.ala.org/booklinks

Booker, C. (2004). *The seven basic plots: Why we tell stories*. New York: Continuum.

Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Cazden, C. (2001). *Classroom discourse: The language of teaching and learning* (2nd ed.). Portsmouth, UK: Heinemann.

Cook-Gumperz, J. (2006). *The social construction of literacy* (2nd ed.). Cambridge, UK: Cambridge University Press.

Cooper, P. (2009). *The classrooms all young children need: Lessons in teaching from Vivian Paley*. Chicago, IL: University of Chicago Press.

Department for Curriculum, Education and Lifelong Learning in Schools. (2008). *The foundation phase, 3–7*. Cardiff, Wales: Crown Copyright.

Department for Education and Skills. (2015). *Curriculum for Wales: Foundation phase framework revised*. Cardiff, Wales: Crown Copyright.

Dyson, A. H. (1989). *Multiple worlds of child writers: Friends learning to write*. New York: Teachers' College Press.

Egan, K. (1989). *Teaching as story-telling: An alternative approach to teaching and the curriculum in the elementary school*. Chicago, IL: University of Chicago.

Egan, K. (1998). *The educated mind: How cognitive tools shape our understanding*. Chicago, IL: University of Chicago Press.

Egan, K. (2006). *Teaching literacy: Engaging the imagination of new readers and writers*. Newbury Park, CA: Corwin Press.

Egan, K. (2010). *An imaginative approach to teaching* (2nd ed.). San Francisco, CA: Jossey Bass.

Egan, K., & Judson, G. (2015). *Imagination and the engaged learner: Creative tools for the classroom*. New York: Teachers' College Press.

Estyn. (2011). *A strategy and guidance for inspecting literacy for pupils aged 3 to 18 years.* Cardiff, Wales: Crown Copyright. Retrieved from: http://learning.gov.wales/docs/learningwales/publications/140224-strategy-and-guidance-for-inspecting-literacy-en.pdf. Accessed 21 Jan 2016

Gee, J. (1991). Socio-cultural approaches to Literacy (Literacies). *Annual Review of Applied Linguistics, 12*, 31–48.

Gee, J. (2015). *Social linguistics and literacies: Ideology in discourse* (5th ed.). London: Falmer Press.

Hardy, B. (1975). *Tellers and listeners: The Narrative imagination*. London: Athlone Press.

Hargreaves, A. (1998). The emotional practice of teaching. *Teaching and Teacher Education, 14*(8), 835–854.

Heath, S. B. (1983). *Ways with words*. Cambridge, UK: Cambridge University Press.

Janks, H. (2010). *Literacy and power*. London: Routledge.

Lyle, S. (2000). Narrative understanding: Developing a theoretical context for understanding how children make meaning in classroom settings. *Journal of Curriculum Studies, 32*(1), 45–63.

McEwan, H., & Egan, K. (Eds.). (1985). *Narrative in teaching, learning, and research*. New York: Teachers College Press.

Miller, S., & Pennycuff, L. (2008). The Power of Story: Using Storytelling to Improve Literacy Learning. *Journal of Cross-Disciplinary Perspectives in Education, 1*(1), 36–43.

Nicolini, M. B. (1994). Stories can save us: A defense of narrative writing. *English Journal, 83*, 56–61.

Nicolopoulou, A. (2010). The alarming disappearance of play from early childhood education. *Human Development, 53*, 1–4.

Nicolopoulou, A., McDowell, J., & Brockmeyer, C. (2006). Narrative play and emergent literacy: Storytelling and story-acting meet journal writing. In D. S. Singer, R. M. Golinkoff, & K. Hirsh-Pasek (Eds.), *Play = learning: How play motivates and enhances children's cognitive and social-emotional growth* (pp. 124–143). Oxford, UK: Oxford University Press.

Paley, V. G. (1981). *Wally's stories*. New York: Cambridge University Press.

Paley, V. G. (1984). *Boys and girls: Superheroes in the classroom*. Chicago, IL: University of Chicago Press.

Paley, V. G. (2004). *A child's world: The importance of fantasy play*. Chicago, IL: The University of Chicago Press.

Perry, K. (2012). What is literacy? A critical overview of sociocultural perspectives. *Journal of Language and Literacy Education* [Online], *8*(1), 50–71.

Pitcher, E. G., & Prelinger, E. (1963). *Children tell stories: An analysis of fantasy*. New York: International Universities Press.

Rosen, H. (1985). *Stories and meanings*. Sheffield, UK: National Association of Teachers of English.

Steedman, C. (1982). *The tidy house*. London: Virago.

Street, B. (1984). *Literacy in theory and practice*. Cambridge, UK: Cambridge University Press.

Vygotsky, L. (1986). *Thought and language*. Boston, MA: MIT Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological process.* In M. Cole (Ed.). Cambridge, MA: Harvard University Press.

Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated Action*. Cambridge, MA: Harvard University Press.

Yin, R. K. (2009). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Chapter 7
Child Shyness and Reading Ability in Encounters with Difficult Words During Shared Book Reading

Mary Ann Evans and Kailey Pearl Ennis

Abstract This study investigated the association of children's shyness and their ability to read words with parent and child behaviours when children encounter difficult words during book reading. Grade one children and their parents were observed reading storybooks together that the child could read with assistance. Children's shyness and their ability to decode unfamiliar nonwords (a measure of reading ability) were also assessed by the researchers. When reading the books with their parents, shyer children and poorer readers less often attempted to read words that they found difficult. Parents of shyer children and of less skilled readers responded to this and other reading errors by providing more context cues and fewer encouragements to try the word again. Parents also more often simply told shyer children the word, and offered poorer readers less assistance to help them decode the word using graphophonemic clues. In addition, boys more frequently guessed at difficult words, while girls were more likely to pause or request assistance. However parent behaviour did not differ for boys and girls. The findings demonstrate a new facet of the way in which inhibition in shy children and protective parenting of them are manifested, and suggests a mechanism for the negative association between shyness and academic achievement found in previous studies. The findings also highlight the need for teachers and parents to be more reflective in their book reading interactions with shy children. Suggestions for working with shy children are provided.

Introduction

Grade one marks a period when children acquire the skills necessary to successfully read novel words based on letter-sound correspondences and blending letter sounds or phonemes together (Ehri, 1991). As children enter this developmental phase and

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begin to take over the role of the reader themselves, parents' goals for shared book reading shift, such that fostering reading via this activity becomes as important for parents as enjoying books and fostering the parent-child relationship (Audet, Evans, Williamson, & Reynolds, 2008). Thus, parents incorporate a substantial amount of coaching when reading with their primary grade children (Evans, Barraball, & Eberle, 1998; Evans, Moretti, Shaw, & Fox, 2003; Mansell, Evans, & Hamilton-Hulak, 2005). In so doing they play an important role in extending the instruction that teachers provide in the classroom.

Part of instruction includes feedback, or responses to children's reading errors, or what Goodman (1969) and followers referred to as miscues. For consistency, the term errors will be used here throughout. Studies have consistently found children's word reading ability, and in some cases reading comprehension, to improve significantly more when feedback is provided to errors than when errors are ignored (Heubusch & Lloyd, 1998; Spaai, Ellermann, & Reitsma, 1991). Parents themselves appear to be implicitly aware of this as they rarely ignore children's errors. Rates as low as four percent have been observed during home observations of shared book reading in beginning readers (Evans et al., 1998). This is lower than that observed in studies of teachers (Allington, 1980; Chinn, Waggoner, & Anderson, 1993; Hoffman et al., 1984), possibly due to the more extensive attention parents can give one-on-one within the home.

A limited body of research has investigated the corrective approaches naturally used. Parents most often supply the correct word (referred to as terminal feedback) (Evans et al., 1998; Mansell et al., 2005; Stoltz & Fischel, 2003), as do teachers (Allington, 1980; Hoffman & Clements, 1984). However, Mansell and colleagues' (2005) longitudinal study of shared book reading highlighted that there are two distinct groups of parents. "Word suppliers" provided terminal feedback most frequently across kindergarten, grade one, and grade two. "Code coaxers", on the other hand, supplied the word less often and relied instead on various clues (called sustaining feedback) to guide their children to correctly read a word. These clues were most often graphophonemic in nature – that is, they focussed on helping the child decode the graphemes or written marks on the page, such as by segmenting the word into smaller parts for the child to attempt, providing sounds for individual letters or letter clusters to help the child over the difficulty, and encouraging the child to use their knowledge to sound out the word. However code-coaxers also used some context clues such as pointing to a corresponding picture.

What child characteristics determine the nature of parent feedback during shared book reading remains largely unexplored. As outlined in the next section, research conducted thus far shows that children's reading skill likely has an effect. The focus of the present research was to expand upon previous work to determine the extent to which child shyness and reading ability predict both parent and child behaviours in response to words the child cannot read. Consideration was also given to potential differences between boys and girls.

Child Characteristics Influencing Reading Behaviour

Child Reading Skill in Relation to Parent and Child Behaviour

Studies have shown that the amount and type of feedback provided by parents and teachers varies according to the child's facility with word reading. For example, in their observational study of shared book reading with grade one children, Evans and colleagues (1998) found that parents more frequently provided graphophonemic cues to stronger readers and were more likely to encourage the child to try a word again. In contrast, pictorial cues were most commonly provided to children with poorer word reading scores. Similarly, Stoltz and Fischel (2003), and Mansell et al. (2005) found that picture clues were more frequently given to children with lower scores on a graded word recognition test. Straightforward pictorial cues provide less able beginning readers with a swift way to identify a word, while slightly stronger readers have the phonological and letter-sound skills to benefit from graphophonemic clues and to subsequently use this information to sound out future words (Evans et al., 1998).When children are a little older, the errors of relatively poorer readers are more often followed by graphophonemic coaching from teachers (Allington, 1980), while the less frequent errors of the more skilled children, which often do change the meaning of the text, are ignored or corrected via terminal feedback (Hoffman & Clements, 1984). Moreover, Evans et al. (2003) found that when a particular type of feedback was not successful, parents switched to a different, more transparent, clue to bring about success.

Research has also shown that children can approach words in four ways – recognise the word from their sight vocabulary, decode the word, use a familiar word that is orthographically similar as an analogy, or guess at the word based on context cues (Ehri, 1991), and that children's approaches change as they become more highly skilled. Biemiller (1970) found that very early readers relied almost exclusively on context to guess at unknown words, as most of these children's errors were semantically appropriate substitutions but did not visually resemble the actual printed word. In a second developmental phase, children frequently made no attempts and, when they did provide a guess, their guesses tended to have some similarity with the printed word such as the same first letter but the word might not fit the sentence. Finally in the third phase, these graphophonemic substitution errors continued but the reading errors also preserved the meaning of the sentence, suggesting that children were able to consolidate their developing phonetic knowledge with their more developed contextual understanding. Biemiller's developmental sequence is consistent with the trajectories later put forth by Ehri (1991) and Whitehurst and Lonigan (1998) and shown most recently in a study by McGee, Kim, Nelson, and Fired (2015).

Child Shyness in Relation to Parent and Child Behaviour

Shyness is defined as a "tendency to react with tension and discomfort to strangers and social-evaluative situations" (Asendorpf & Meier, 1993, p.1072). For many, a biological basis underlies this behavior in that shy individuals appear to have a lower threshold for arousal (Marshall & Stevenson-Hinde, 2001). A recent literature review by Evans (2010) showed a modest but consistent negative relation between children's shyness and language development across studies conducted in English speaking countries, as well as in French speaking Canada, Hong Kong, Germany, Norway, Saudi Arabia, Sweden, and Switzerland, with shyer children having lower scores in both the expressive and receptive language domains (Crozier & Badawood, 2009; Engfer, 1993; Kristensen & Oerbeck, 2006; Normandeau & Guay, 1998; Steinhausen & Juzi, 1996; Ting, 2008). While the research is sparser, modest negative associations with academic achievement assessed via reading and mathematics tests in the primary grades were also documented in this review.

The mechanism by which such negative associations occur is not well understood. Spere, Schmidt, Theall-Honey, and Martin-Chang (2004) suggested that shyness does not result in delayed language development, but rather that less shy children get more practice at language, accelerating their language learning. For example, shy children volunteer less speech, speak fewer utterances, and display longer latencies before their first utterance in social situations (see Evans, 2010), and speak fewer utterances and volunteer less content while reading a wordless storybook with their mothers (Reynolds & Evans, 2009).

This decreased verbal participation may stem from shy individuals' fear of negative evaluation, unwillingness to take risks, and tendency to cope with anxiety through avoidance (Barrett, Rapee, Dadds, & Ryan, 1996; Hope, Rapee, Heimberg, & Dombeck, 1990; Levin & Hart, 2003). These same characteristics may influence children's willingness to guess at difficult or unfamiliar words during shared book reading.

Observational findings also suggest that shyer or more anxious children elicit more controlling and overprotective behaviours from parents (Greco & Morris, 2002; Hudson & Rapee, 2002; Siqueland, Kendall, & Steinberg, 1996; Wood, McLeod, Sigman, Hwang, & Chu, 2003) and teachers (Evans & Bienert, 1992). These differences may reflect a general desire to protect shy children from experiences of failure (Wood et al., 2003). Rubin and Burgess (2002) proposed that adults naturally respond to expressions of social fearfulness in a child with sympathy and are quick to solve the child's dilemma in response to this discomfort. This, however, can be overly protective and thwart the child's development of problem solving and emotional regulation.

No studies have been located that examine the effect of child shyness on interaction when children do part of the reading when parents and children share storybooks together. As a suggestion of what may occur in this context, one may turn to studies of high- and low-control utterances used by adults with shy and non-shy children (see Edison et al., 2011; Evans, 1987; Evans & Bienert, 1992; Reynolds & Evans, 2009; Wood & Wood, 1983). High-control utterances include chains of

questions that seek a specific response (such as what, why, where and yes/no questions), while low-control strategies involve the adult making personal contributions and remarks that seek to engage the child in conversation rather than to direct it. Studies have shown that high-control approaches tend to be used more often when interacting with shy children (Evans & Bienert, 1992; Wood & Wood, 1983) and selectively mute children (Edison et al., 2011). Moreover, it is thought that these tendencies in adults may exacerbate the already avoidant nature of shy and socially anxious children (Barrett et al., 1996; Coplan, Arbeau, & Armer, 2008: Dadds, Barrett, Rapee, & Ryan, 1996; Hudson & Rapee, 2001; Rapee, 2001) by reinforcing it and entrenching lower self-efficacy or 'can do'.

The Current Study

The current naturalistic study sought to extend the extant literature on children's reading behaviour and adult feedback to their errors through investigating the extent to which reading ability and shyness, as well as the two in conjunction with each other, predict the way in which children react to unfamiliar words, and parents respond to their difficulty. Shared reading sessions in each child's home were audiotaped and non-verbal behaviours were recorded by an observer. Audiotapes were transcribed and coded for parent and child behaviours. Parental utterances in anticipation of a child being unable to read a word correctly or immediately following a reading error were coded for type of response. Children's utterances also were coded for the type of attempt made upon encountering a word they could not read.

In the study shyness and reading skill were treated as continuous variables, rather than dividing the sample into extreme groups of high and low shyness and reading skill. Given previous reports of parental sensitivity to children's ability as they read, it was expected that parents increasingly would provide graphophonemic clues to foster sounding out words and non-specific encouragements to prompt another attempt at a word to children of increasingly higher decoding skill. Conversely, they decreasingly would provide clues that directed the child to make a guess on the basis of the illustrations or context as reading skill increased. With respect to child shyness, it was expected that as shyness increased, parents would increasingly adopt a more protective parenting style by increasingly supplying the word after an error and interrupting their child to give the next word in anticipation of the child having difficulty with it. Conversely, they would decreasingly provide non-specific encouragement to try a word again as child shyness increased.

For children's behaviours, weaker reading skill was expected to be associated with more incomplete attempts at words and errors and more requests for assistance. In contrast, higher reading skill would predict more errors in the form of substituting the printed word with another. Finally, as suggested by previous research on risk-taking (Barrett et al., 1996; Hope et al., 1990; Levin & Hart, 2003), children with increasingly higher shyness were predicted to more frequently hesi-

tate or request assistance and less often to attempt unfamiliar words. Hence they would make fewer word substitutions and incomplete attempts at decoding.

Methods

Participants

Participants were 6-year-old children enrolled in elementary schools in three small cities and surrounding rural areas in south-western Ontario, Canada. They were recruited in junior kindergarten as part of a larger longitudinal study on emergent literacy. All required data for the current study were available for 94 children consisting of 44 girls and 50 boys. The parent who took part in the home reading session was the one who viewed himself or herself as most often reading with the child. There were 87 mothers, 6 fathers, and one mother-father team. The average age of children at the time of the grade one home visit was 6 years and 6 months. All families reported reading predominantly English storybooks and seven families reported that a second language was spoken at home. Maternal education ranged from the completion of high school to graduate-level education, with 76 % of mothers having a college diploma or undergraduate university degree. Father's education ranged from the completion of grade ten (three fathers) to the completion of a graduate-level degree. For fathers, 72 % reported having a college diploma or undergraduate university degree. Finally, average family income, measured using eight rating categories (less than $16,000, $16,000 – $26,000, $26,000 + − $40,000. $40,000 +− $55,000, $55,000 + − $70,000, $70,000 + − $85,000, $85,000 + − $100,000, $100,000+) was 6.37, indicating that, on average, the families earned between $70,000 and $85,000 annually. For comparison purposes, the median family income in Canada in 2011 was $76,000 (Statistics, 2013).

Materials

Storybooks The following nine illustrated narrative storybooks were brought to the home and provided for parent and child to choose from. Listed in order of increasing difficulty, these were: Cat Traps (Coxe, 1996), I Can't Sleep (Graves, 1994), Dear Zoo (Campbell, 1982), In My Backyard (De Vries & Zimmermann, 1992), Five Silly Fishermen (Edwards, 1989), A Kiss for Little Bear (Minarik, 1968), Moon Boy (Brenner, 1990), Tickling Tigers (Currey, 1996), and Grandma and the Pirates (Gilman, 1990). These books varied from simple repetitive texts appropriate for very early readers through to longer and more complex stories appropriate for children with higher reading skill. Only the occasional parent commented that they had any of these books in their home.

Colorado Childhood Temperament Inventory (CCTI, Bus & Plomin, 1984; Rowe & Plomin, 1977). Parents completed the CCTI during their child's grade 1 year. The CCTI contains five items tapping shyness, all scored on a scale of 1 (not at all) to 5 (a lot). The items on the shyness subscale were: (1) My child takes a long time to warm up to strangers; (2) My child tends to be shy; (3) My child makes friends easily (reverse scored); (4) My child is very sociable (reverse scored); and (5) My child is very friendly with strangers (reverse scored). In the current sample, reliability as indexed via internal consistency was .84, consistent with the .83 reported by Bus and Plomin (1984) and Rowe and Plomin (1977).

Woodcock Reading Mastery Test – Revised, Word Attack Subtest (WRMT; Woodcock, 1998). For our index of reading skill, children completed the Word Attack subtest of the WRMT in November or December of their grade 1 year. This task requires children to read isolated non-words (e.g., pruff), called pseudowords. This measure was chosen as it provides an index of children's ability to read or decode words that they do not recognize on sight and as such reflects their ability to tackle and accurately read previously unseen or new words such as might be encountered during shared book reading. The internal consistency of the Word Attack subtest has been reported to be .87 (Woodcock, 1998).

Procedure

Schools were selected by the overseeing school boards to span a range a socioeconomic neighbourhoods. School visits to assess the children took place in November or December (the third and fourth month of the children's 10-month grade 1 year). In January, February, or March of the same grade year, an observer visited the family's home to observe parent and child reading together. Home observations took place when and where the family most frequently engaged in shared book reading, typically on a couch in the family room or at the kitchen table. Visits lasted approximately 1 h. The books the observers brought were spread out in order of increasing difficulty, and parent and child were asked to choose books that the child could read with some assistance, and to read together as they normally would. The observer allowed the dyad to proceed without any further guidance or interruptions. Sessions were audiotaped and observers recorded nonverbal behaviours as the dyads read, such as the parent pointing to illustrations or covering up parts of words. Audiotapes were later transcribed verbatim using the CLAN format of the Child Language Data Exchange System (MacWhinney, 2000), with the nonverbal notations added to facilitate coding parent and child utterances as outlined below.

Coding System

Coding of Parental Feedback All feedback first provided by parents following a child's error or request for assistance was coded. In addition parents sometimes anticipated that a child would have difficulty and intervened before the child attempted a word or requested the parent's assistance by asking for help or signalling that they found the word difficult through a long pause, "um" or nonverbal cue. Both responses to miscues and anticipatory helps were coded according to the type of assistance the clue or prompt provided to the child, using the categories previously employed by Evans and colleagues (1998) and Mansell and colleagues (2005). The coding categories were as follows:

1. *Ignore*: The parent did not provide feedback. Note that this coding category does not apply to the coding of anticipatory help.
2. *Encouragement*: The parent encouraged the child to try the word without specific guidance (e.g., "Take your time", "Look at it again").
3. *Graphophonemic clue*: This included references to (a) letter details such as particular letters or letter combinations within the word (e.g., "That's a 'B' not a 'D'", "(b) phonetic clues such as letter sounds, syllables, or word parts (e.g., "It starts with 'chuh'), or (c) encouragement to the child to use letter-sound knowledge to decode the word (e.g.,. Don't forget what 'C' and 'H' say when they're together"; "SH" goes shhhh).
4. *Context clue*: This included (a) pointing to illustration wherein the word was depicted, (b) referring to the text's meaning or to what word might fit best given the story's plot, (c) calling up the child's general knowledge wherein information from outside of the storybook directed the child to the unknown word (e.g., "It's what you ride to school in"), or (d) retrievals of previous instances of the word (e.g. "It's the same as this word that you just read").
5. *Terminal feedback*: The parent supplied the unknown word for the child.

Parental responses to errors in a given category were tallied and added to the same category for anticipations of errors to arrive at a single score for each feedback category. The total number of anticipatory helps and total number of word supplies was also tallied.

Coding of Children's Approaches to Unknown Words The children's initial approaches to tackling words they could not read were coded into one of the following categories:

1. *No attempt*: The child (a) paused, stopped reading, or remained silent, or (b) requested parental assistance.
2. *Skips word:* The child continued reading without attempting the word.
3. *Incomplete attempt*: The child provided an incomplete or non-word.
4. *Substitutes a real but incorrect word*: The child provided a real word that was not the word printed in the text.

Reliability of the Coding System To assess the reliability of the coding scheme, a second investigator coded 20 % of the transcripts. Cohen's Kappa was calculated for each parent and child code, as was the percentage of events coded by one coder that were also coded by the second. Cohen's Kappa for coding of parent behaviour was .93, with 86 % agreement on events to be coded. Reliability coding of children's approaches to difficult words yielded a Cohen's Kappa of .85, with an 88 % agreement on incidents to be coded. Cohen's Kappa was also calculated for each of the individual codes, and obtained values ranged from .79 to .99. All obtained Cohen's Kappa values were considered strong according to the guidelines of Altman (1991) and Landis and Koch (1977).

Data Preparation

Table 7.1 presents means, standard deviations, and ranges for the data gathered in the study. Child shyness was indexed using the combined parent ratings for the five shyness items of the CCTI. Scores closer to the maximum score of 25 represented higher shyness in a child. Our index of being able to read words was performance on the Word Attack subtest according to norm-referenced scores which have a mean of 100 and a standard deviation of 15. Parental anticipations were a simple count of the frequency with which parents anticipated difficulty reading a given word and intervened. All other scores in Table 7.1 are percentages in order to control for the fact that some children made more errors than other children, due to such factors as reading more text in the books, or reading text that was more difficult for them.

Table 7.1 Descriptive statistics for parent and child variables

Variable	*M*	*SD*	*M*	*SD*
	Raw score		Percent	
Parent variables				
Parental anticipations	.98	1.71	–	–
Context clue	2.12	3.02	5.24	6.64
Graphophonemic clue	12.31	10.18	27.79	20.19
Try again cue	10.12	6.32	25.13	16.05
Terminal feedback	15.17	1.60	31.00	19.97
Ignores error	5.81	7.43	13.73	15.67
Child variables				
Miscues	44.91	25.45		
CCTI Shyness raw score	11.21	4.32		
Word Attack SS	111.78	9.97		
Skip word	1.53	2.09		
Pauses/requests help	7.94	9.24	17.72	18.17
Incomplete attempt	10.77	9.15	23.32	13.43
Substitutes a real word	24.68	17.65	54.86	14.42

Specifically, parent scores in the first half of the table (except for anticipations) represent the percentage of words on which children erred to which parents provided feedback of a given type. Similarly, child scores in the bottom line of Table 7.1 represent the percentage of words on which children erred that fell in the no attempt, incomplete attempt, substitution, or skip the word categories. Skipping the word was infrequent (M = 1.53, SD = 2.09) and thus this variable was dropped from further analyses.

In order to determine whether and to what extent child shyness and child ability to read words predicts their behaviour and that of their parents, shyness and reading ability were entered as predictors in a series of multiple regressions. In addition an interaction term was included to determine whether the effect of one's shyness or reading ability depended on the value of the other (e.g., whether shyness would have an effect only if reading skill was low).

Results

Preliminary Analyses

On average, children made 44.91 errors and/or requests for assistance per book reading session (SD = 25.45). As shown in Table 7.1, upon encountering a word they could not read, children substituted another word a little over half the time. Incomplete attempts to sound out the word comprised a quarter of their behaviour, followed by pausing/requesting parental assistance at 18 %.

Visible anticipations of child difficulty occurred roughly just once per book reading session (M = .98, SD = 1.71). Therefore, parent scores almost entirely reflect responses to children's miscues. Parents ignored 13 % of children's errors. About a third of their feedback consisted of supplying the word. Graphophonemic clues were only slightly less common. Encouragement to try the word again with no additional guidance constituted a quarter of parental feedback. Context clues were by far the least common strategy at just 5 %.

Sex differences were not anticipated but one-way analyses of variance (ANOVAs) were conducted to determine if scores for reading ability, shyness, or any of the behaviours varied by children's sex, in case this needed to be considered in the regressions. Parent behaviours did not differ according to whether the child was a boy or a girl. Child reading skill on the Word Attack subtest also did not differ by sex. However, boys (M = 59.52 SD = 13.22) were more likely than girls (M = 49.57, SD = 14.03) to guess at a word, $F(1, 92) = 12.49$ $p < .05$. Girls (M = 23.10, SD = 19.37) were more likely than boys (M = 13.87, SD = 15.93) to pause or request assistance $F(1, 92) = 6.47$, $p < .05$ Thus, children's sex was included as a predictor in the regression analyses for these two variables.

Correlations were calculated to determine which parent and child behaviours were significantly related to child shyness and reading scores (see Tables 7.2 and 7.3).

Table 7.2 Correlations of parent behaviours with child shyness and decoding ability

Variable	2	3	4	5	6	7	8
1. Graphophonemic clue	.01	−.14	−.35**	.30**	.47**	−.01	−.30**
2. Context clue		.05	−.13	.42**	−.10	.22*	−.35**
3. Try again cue			−.46**	−.08	−.26*	−.27**	.22*
4. Terminal feedback				.10	−.15	.27**	−.05
5. Anticipation					−.25*	.05	−.34**
6. Ignore error						−.05	.25*
7. Child CCTI shyness							−.05
8. Child Word Attack							–

*$p < .05$, **$p < .01$

Table 7.3 Correlations of child behaviour with child shyness and decoding ability

Variable	2	3	4	5
1. Pauses/requests help	−.66**	−.56**	.36**	−.33**
2. Substitutes a word		−.21*	−.25*	.20
3. Incomplete attempt			−.16	.23*
4. Child CCTI shyness				−.05
5. Child Word Attack				–

*$p < .05$, **$p < .01$

Shyness and Word Attack were uncorrelated but significant correlations were observed for each with child and parent behaviours. Specifically, shyer children were more likely to pause or ask for assistance and were less likely to make a guess at the word. Poorer readers also were more likely to pause, and they were less likely to make an incomplete attempt at the word. The different forms of sustaining feedback were not correlated with each other, but graphophonemic clues and encouragements to try again were negatively correlated with the parent giving the word. Shy children were more likely to be given the word or a context clue to it, and less likely to be encouraged to try the word again. Finally, parents more often interrupted poorer readers in anticipation of a difficult word, and more often gave the child clues to read the word and less often gave general encouragements to try the word again when the child made an error.

Prediction of Behaviour in Shared Book Reading

To predict parent and child behaviours, child shyness, reading ability, and where relevant sex were entered in the first step, and the two-way (reading x shyness) and where relevant three-way (reading x shyness x sex) interactions of them entered in subsequent steps of the multiple regressions. None of the two- nor three-way interactions was significant. Thus, the simple main effects are reported below and displayed in Table 7.4.

Parent Behaviour A significant amount of variance in how much parents gave graphophonemic clues was predicted by child reading ability, $F(2,91) = 4.54$, $p <$ 05. Specifically, children's Word Attack scores negatively predicted graphophonemic feedback, in that parents offered this type of feedback less as children displayed stronger reading skill. The squared part correlation (sr^2 column in Table 7.4) indicated that reading ability accounted for 9.00 % of variance in parent use of graphophonemic feedback. Child shyness had no predictive value.

A significant amount of variance in the percentage of context clues was also predicted, $F(2,91) = 9.05$, $p <$. 001. Context clues were negatively predicted by child reading ability, which accounted for 11.42 % of the variance, but were positively predicted by shyness which independently accounted for 4.49 % of variance.

Table 7.4 Statistics for hierarchical regressions of child decoding and shyness on behaviour

Behaviour	Predictor	Total R^2	*B*	*SEB*	β	sr^2
Graphophonemic clue		.09				
	CCTI Shyness		−.09	.47	−.02	.004
	Word Attack		−.61	.20	−.30**	.090
Context clue		.17				
	CCTI Shyness		.33	.15	.21*	.045
	Word Attack		−.23	.07	−.34***	.114
Try again		.12				
	CCTI Shyness		−.98	.37	−.27**	.069
	Word Attack		.34	.16	.21*	.044
Terminal feedback		.07				
	CCTI Shyness		1.23	.47	.27**	.071
	Word Attack		−.08	.20	−.04	.017
Ignore error		.07				
	CCTI Shyness		−.00	.00	−.04	.017
	Word Attack		.01	.00	.25*	.063
Anticipate error		.12				
	CCTI Shyness		.02	.04	.04	.014
	Word Attack		−.06	.02	−.34***	.115
Pause/request help		.27				
	CCTI Shyness		.01	.00	.30**	.086
	Word Attack		−.01	.00	−.33**	.108
	Sex		.08	.03	.23**	.051
Substitute real word		.20				
	CCTI Shyness		−.01	.00	−.19	.034
	Word Attack		.00	.00	.21*	.043
	Sex		−.10	.03	−.33**	.105
Incomplete attempt		.07				
	CCTI Shyness		−.01	.00	−.15	.023
	Word Attack		.00	.00	.22*	.048

* $p < .05$, ** $p < .01$

Thus, parents were less likely to rely on context cues as child reading ability increased, but were more likely to do so if their child was shyer than others in the sample.

Concomitantly, parents also less frequently encouraged shyer children to try the word again without offering guidance, but were more likely to do so with better readers. A total of 11.90 % of variance was accounted for by these factors, $F(2,91) = 6.14$, $p < 01$. Reading ability accounted for 4.16 % of the variance while shyness accounted for 6.97 %. The extent to which parents simply supplied the word was also predicted, $F(2,91) = 3.61$, $p < .05$. A greater percentage of responses to miscues entailed supplying the word if the child was shyer, with shyness accounting for 7.07 % of the variance. Decoding ability made no significant contribution.

For the percentage of errors ignored by parents, decoding ability but not shyness predicted 6.30 % of the variance, a small but statistically significant amount, $F(2,91) = 3.21$, $p < .05$. Parents ignored a higher percentage of their children's errors when children were stronger readers. Finally, anticipations of difficulty reading words also were significantly predicted by reading skill, $F(2,91) = 6.06$, $p < .01$. This parent behaviour was more common when children were poorer readers, with decoding ability predicting 11.49 % of variance. Child shyness held no predictive value here.

Child Behaviour The percentage of difficult words for which children paused or requested assistance from their parent was significantly predicted, $F(3, 90) = 11.15$, $p < 001$. Stronger readers made attempts more frequently, with their reading skill accounting for 10.76 % of the variance. Shyness also predicted the extent to which children attempted words, accounting for almost as much variance – 8.64 % – , with shyer children less frequently doing so. Finally, sex accounted for another 5.11 % of the total variance. As noted earlier, girls engaged in proportionally more of these behaviours than boys.

Table 7.5 Predictive strength of decoding ability, shyness, and sex for children's approaches to difficult words

Child approach	Predictor	Total R^2	*B*	*SEB*	B	sr^2
No attempt		.27				
	Shyness		.01	.00	.30**	.08
	Word Attack		−.01	.00	−.33**	.11
	Sex		.08	.03	.23**	.05
Substitute a real word		.20				
	Shyness		−.01	.00	−.19	.03
	Word Attack		.00	.00	.21*	.04
	Sex		−.10	.03	−.33**	.10
Incomplete attempt		.07				
	Shyness		−.01	.00	−.15	.02
	Word Attack		.00	.00	.22*	.05

* $p < .05$, **$p < .01$

The percentage of miscues for which children substituted a word for what was on the page was significantly predicted, $F(3,90) = 7.57$, $p < 001$. Decoding skill accounted for 4.29 % of the variance, but sex accounted for double that at 10.50 %. As noted earlier, boys more frequently substituted a word than girls, as did children with stronger decoding skill. Shyness had no predictive value.

Finally, a modest but significant amount of variance (4.80 %) in incomplete attempts at reading the word was predicted by reading skill, $F(2,91) = 3.69$, $p < .05$. As reading skill increased across children, more incomplete attempts were made.

Discussion

This study aimed to determine the extent to which children's reading skill and shyness predicted the behaviours of parents and children when difficult words were encountered during shared book reading. Such difficulties are common as parents encourage their children to read to them instead of reading to the child. To accomplish this, counts were made of the types of assistance first offered by parents in response to an inability to correctly read words in the books read, as well as any parent comment in anticipation of a word being difficult. The frequency of different child behaviours (i.e., no attempt, skip word, incomplete attempt, substitute a word) was also calculated. As expected, both reading skill and shyness were significant predictors of child and adult behaviour. Generally the former was the stronger of the two predictors. However shyness equally predicted the extent to which children hesitated or declined to attempt difficult words, and it was an even stronger predictor of the extent to which parents simply gave the miscued word rather than encouraging their child to attempt it. In addition, although not anticipated, children's sex predicted two of their behaviours; girls more frequently paused or requested assistance with difficult words, while boys more frequently substituted a complete word.

Child Approaches to Difficult Words

Shy children have been found to take fewer risks (Levin & Hart, 2003) and to report greater fear of negative appraisals resulting from failure (Hope et al., 1990; Keaten, Kelly, & Finch, 2000). Commensurate with this, shyer children in the present study more frequently paused or requested assistance when encountering words they could not read. As expected, poorer readers also more often paused or requested assistance, instead of substituting a wrong word or making a partial attempt. Unexpected was that a child's sex proved to be a third predictor, in that girls more frequently paused or requested assistance, while boys more often substituted a word for the one printed. The different responses of boys and girls may also reflect differences in children's tendencies towards risk taking. A meta-analysis by Byrnes, Miller, and Schafer (1999) found males to be riskier than females across almost all

risk contexts and age levels, with sex differences in the willingness to take intellectual risks larger than for many other risk contexts. Guessing at an unknown word would fall into the category of intellectual risk taking, affecting the behaviour of both shy children and girls in this study. Such reluctance may be even greater in oral reading with teachers and in the classrooms, in that shy children are likely to feel less comfortable and secure there than in the home. Small reading groups, having shy children read to younger children, and 'lightening up' reading to the teacher by having stuffed toys or puppets as part of the reading dyad may make shy children more comfortable.

Parental Approaches to Difficult Words

Parents generally did not ignore their child's reading errors. This is consistent with previous research showing that parents are vigilant in providing feedback (Evans et al., 1998; Mansell et al., 2005). In general, parents more frequently responded to a child's anticipated difficulty, actual errors, or requests for assistance by supplying the word (roughly 31 %) than with other forms of assistance. Graphophonemic clues to help the child sound out the word were almost as common (roughly 27 %). In addition the two types of feedback were negatively correlated. This too is consistent with previous research (Evans et al., 1998; Mansell et al., 2005; Stoltz & Fischel, 2003) and lends support to the distinctions between "word supplier" and "code coaxer" categories of parent reading assistance put forth by Mansell and colleagues (2005). These categorizations are further supported by the finding that supplying the word was also negatively correlated with the other two forms of sustaining feedback – context feedback (largely directions to look at a corresponding illustration) and try again. Overall then, parents who frequently read the difficult word for the child less frequently provided clues to show how difficult those words might be tackled, and less often provided children with the opportunity to employ their own self-initiated strategies. Consistent with previous studies, general encouragements to try again and clues to assist a child before the attempted reading a word decreased as children's reading skill increased across children.

The potential differential effectiveness of different types of feedback in shared book reading has yet to be established. Previous research (e.g., Lovett, Barron, Forbes, Cukst, & Steinbach, 1994; Meyer, 1982; Perkins, 1988; Spaai et al., 1991; van Daal & Reitsma, 1990) is sparse and inconsistent as to the value of supplying the word (as a whole or phoneme by phoneme) rather than encouraging another attempt. Similar inconsistency is seen in studies of meaning versus graphophonemic feedback (see Crowe, 2003). Given the accumulated evidence on the importance in learning to read of understanding that letters represent the phonemes of spoken language (the alphabetic principle) (e.g., Byrne, 1998; Reiben & Perfetti, 2010), the inconsistency may be a function of the different populations and levels of skill sampled in the studies cited. It is the case, however, that any form of constructive feedback appears to result in better reading gains than none at all. As such, the coaching

parents provide during shared book reading to help children over difficult words, rather than ignoring their errors, likely provides a valuable supplement to the instruction and experiences received at school.

While shyness did not predict parental anticipations, parents were less likely to encourage shyer children to try a word again, and more likely to tell them the word or point to a picture of it. This result echoes previous findings on the conversational interactions of adults with shy, anxious, and selectively mute children (Edison et al., 2011; Evans & Bienert, 1992; Greco & Morris, 2002; Hudson & Rapee, 2002; Moore, Whaley, & Sigman, 2004; Wood et al., 2003; Wood & Wood, 1983). Reading the word and alerting child to a picture of the word to name quickly solves the reading dilemma. However doing so may also reduce children's sense of responsibility and agency for reading. Gene-environment interaction theory holds that shy children elicit protective and controlling behaviours from others that can then act to maintain or exacerbate their behavioural tendencies (Rapee & Spence, 2004; Rubin & Burgess, 2002; Wood et al., 2003). The observed tendency of parents to provide more direct feedback by giving the word, as opposed to giving strategies and clues to encourage beginning readers to think through the word, may constrain children's feelings of confidence in attempting to read on their own. It may also decrease children's accumulated experience in coming to a close- enough approximation of a word to recognize it and benefit from the self-teaching mechanism proposed by Share (1995). This could potentially hinder the development of their decoding skill over time, and account for the modest negative relation of shyness to reading skill that has emerged in the majority of studies of shyness and academic ability in children (see review by Evans, 2010).

Limitations and Directions for Future Research

Replication of these results would alleviate concerns that the findings presented here are specific to this sample of children. In addition, it is important to note that the present study was not an attempt to predict as much variance as possible. Indeed, no single regression analysis accounted for more than 27 % of the variance in any parental behaviour. Other variables that likely also influence the feedback strategies employed include mothers' education and proficiency in reading (Neuman, 1996; Tracey & Young, 2002), the nature of the mother-child attachment relationship (Bus, Belsky, van IJzendoorn, & Crnic, 1997), parents' own memories about how they themselves were taught to read as children (Evans et al., 1998), the goals that they have for reading with their children (Audet et al., 2008; Evans & Audet, D. (July, 2014), and the nature of the book read – alphabet or storybook (Davis, Evans, & Reynolds, 2010; Smolkin, Yaden, Brown, & Hoffman, 1992). Including all these variables would entail doubling the sample size and require even more intensive labour in transcription and coding.

The present study consisted of observations of shared book reading at a single point in time when the children were in grade one. Longitudinal observations beginning in preschool and extending through grade two would help to determine when

child characteristics of shyness and sex begin to exert an effect on behaviour during shared book reading and how long it persists. Unlike Evans et al. (1998) who found that parents more frequently provided graphophonemic feedback as reading skill increased, the present study found the opposite. This is likely because the children in the present study were slightly older and had more advanced decoding skill than those in Evans et al. study. Given the substantial changes in letter-sound knowledge, phonemic awareness, and word reading skill from kindergarten through grade two (Speece, Ritchey, Cooper, Roth, & Schatschneider, 2004; Wagner, Torgesen, & Rashotte, 1994, different findings might be expected at earlier versus later time points. Longitudinal research with multiple time points for data collection would help to clarify this issue as well.

Future research should also further investigate the effects of shyness and reading skilling by observing shared book reading in teacher-child and child-child dyads. Top and Osguthorpe (1987) showed benefits for tutors, when the tutors have relatively poor reading skills for their age are paired with younger children having still weaker skill. Part of the gains these tutors make may be from encouraging and allowing them to try out their decoding skills with relatively little evaluative risk.

Conclusion

In the early stages of independent reading, children who were shyer and those who had lesser reading skill were more likely to pause or request assistance when reading to their parents. Shyness and decoding skill exerted differential effects on the type of feedback parents provided to their child's reading errors. As children's reading skill increased, parents provided feedback of a less supportive nature by encouraging children to try again, and as shyness increased, gave the most supportive feedback of supplying the word across children. These results add to a growing body of research on child X environment models of development (e.g., Cairns, Elder, & Costello, 1996; Magnusson & Hakan, 1998; Sameroff, 1993), suggesting that children produce different reactions in their environment that may affect their development.

As was earlier noted, one suggested reason for young shy children's poorer language scores is that their behavioural inhibition restricts the amount of practice they have with language. The same may be true in the initial stages of their becoming independent readers. The present study shows that shy children more frequently ask for help and that the help received is more likely to consist of parents giving the word. Thus shyer children have less opportunity to try out their developing skills and receive coaching on how to read novel words. At school this may be exacerbated by teachers, who sensitive to children's shyness, may desire to minimize their stress and embarrassment by less often having these children read out loud to them. It may be further exacerbated by the documented tendency of teachers to view shy children as less intelligent and less academically competent (Coplan, Gavinski-Molina, Lagace-Seguin, & Wichmann, 2001; Gordon & Thomas, 1967; McBryde,

Ziviani, & Cuskelly, 2004; McCroskey & Daly, 1976). Knowing of these findings in combination with the present results will hopefully encourage parents and teachers to empathetically wait a little longer for shy children's responses. This in itself will help them to better understand children's skill level, to make it clear to the children that it is okay to make mistakes as it is part of trying out new knowledge, and to provide on-line coaching in word recognition during oral reading to encourage children's reading development. Further suggestions for interacting with shy young children are provided in Coplan and Arbeau (2008), and Evans (2001, 2010).

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References

Allington, R. (1980). Teacher interruption behaviours during primary-grade oral reading. *Journal of Educational Psychology, 72*, 371–377. doi:10.1037/0022-0663.72.3.371.

Altman, D. G. (1991). *Practical statistics for medical research*. London: Chapman and Hall.

Asendorpf, J. B., & Meier, G. H. (1993). Personality effects on children's speech in everyday life: Sociability-mediated exposure and shyness-mediated reactivity to social situations. *Journal of Personality and Social Psychology, 64*, 1072–1083. doi:10.1037/0022-3514.64.6.1072.

Audet, D., Evans, M. A., Williamson, K., & Reynolds, K. (2008). Shared book reading: Parental goals across the primary grades and goal-behaviour relationships in junior kindergarten. *Early Education and Development, 19*, 112–137. doi:10.1080/10409280701839189.

Barrett, P. A., Rapee, R. M., Dadds, M. M., & Ryan, S. M. (1996). Family enhancement of cognitive style in anxious and aggressive children. *Journal of Abnormal Child Psychology, 24*, 187–204. doi:10.1007/BF01441484.

Biemiller, A. (1970). The development of the use of graphic and contextual information as children learn to read. *Reading Research Quarterly, 6*, 75–96. doi:10.2307/747049.

Brenner, B. (1990). *Moon boy*. New York: Byron Press.

Bus, A., Belsky, J., van IJzendoorn, M., & Crnic, K. (1997). Attachment and book reading patterns: A study of mothers, fathers, and their toddlers. *Early Childhood Research Quarterly, 12*, 81–98. doi:10.1016/S0885-2006(97)90044-2.

Bus, A., & Plomin, R. A. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Erlbaum.

Byrne, B. (1998). *The child's acquisition of the alphabetic principle*. East Sussex, UK: Taylor and Francis.

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin, 125*, 367–383. doi:10.1037/0033-2909.125.3.367.

Cairns, R. B., Elder, G. H., & Costello, E. J. (1996). *Developmental psychobiological theory. Developmental science* (Cambridge studies in social and emotional development, pp. 63–77). New York: Cambridge University Press.

Campbell, R. (1982). *Dear zoo*. Toronto, ON: Puffin.

Chinn, C. A., Waggoner, M. A., & Anderson, R. C. (1993). Situated actions during reading lessons: A miscroanalysis of oral reading error episodes. *American Educational Research Journal, 30*, 361–392. doi:10.3102/00028312030002361.

Coplan, R. J., & Arbeau, K. A. (2008). The stresses of a "brave new world": Shyness and social adjustment in kindergarten. *Journal of Research in Childhood Education, 22*, 377–389. doi:10.1080/02568540809594634.

Coplan, R. J., Arbeau, K. A., & Armer, M. (2008). Don't fret, be supportive! Maternal characteristics linking child shyness to psychosocial and school adjustment in kindergarten. *Journal of Abnormal Child Psychology, 36*, 359–371. doi:10.1007/s10802-007-9183-7.

Coplan, R. J., Gavinski-Molina, M.-H., Lagace-Seguin, D. G., & Wichmann, C. (2001). When girls versus boys play alone: Nonsocial play and adjustment in kindergarten. *Developmental Psychology, 37*, 464–474. doi:10.1037/0012-1649.37.4.464.

Coxe, M. (1996). *Cat traps*. Toronto, ON: Random House.

Crozier, R., & Badawood, R. (2009). Shyness, vocabulary and children's reticence in Saudi Arabian preschools. *Infant and Child Development, 18*(Special Issue), 255–270. doi:10.1002/icd.623.

Crowe, L. K. (2003). Comparison of two reading feedback strategies in improving the oral and written language performance of children with language-learning disabilities. *American Journal of Speech-Language Pathology, 12*, 16–27. doi:10.1044/1058-0360(2003/049).

Currey, A. (1996). *Tickling tigers*. London: Hodder Children's Books.

Dadds, M. R., Barrett, P. M., Rapee, R. M., & Ryan, S. (1996). Family process and child anxiety and aggression: An observational analysis. *Journal of Abnormal Child Psychology, 24*, 715–734. doi:10.1007/BF01664736.

Davis, B., Evans, M. A., & Reynolds, K. P. (2010). Child miscues and parental feedback during shared alphabet book reading and relations with child literacy skills. *Scientific Studies of Reading, 14*, 341–364. doi:10.1080/10888431003623504.

De Vries, J., & Zimmermann, W. (1992). *In my backyard*. Toronto, ON: Scholastic.

Edison, S. C., Evans, M. A., McHolm, A. E., Cunningham, C. E., Nowakowski, M. E., Boyle, M., et al. (2011). An investigation of control among parents of selectively mute, anxious, and non-anxious children. *Child Psychiatry and Human Development, 42*, 270–290. doi:10.1007/s10578-010-0214-1.

Edwards, R. (1989). *Five silly fishermen*. New York: Random House.

Ehri, L. (1991). Development of the ability to read words. In R. Barr, M. Kamil, P. Mosenthal, & P. Pearson (Eds.), *Handbook of reading research volume two* (pp. 383–417). New York: Longman.

Engfer, A. (1993). Antecedents and consequences of shyness in boys and girls: A 6-year longitudinal study. In K. H. Rubin & J. B. Asendorpf (Eds.), *Social withdrawal, inhibition and shyness in childhood* (pp. 49–79). Hillsdale, NJ: Erlbaum.

Evans, M. A. (1987). Discourse characteristics of reticent children. *Applied Psycholinguistics, 8*, 171–184. doi:10.1017/S0142716400000199.

Evans, M. A. (2001). Shyness in the classroom and home. In W. R. Crozier & L. E. Alden (Eds.), *International handbook of social anxiety: Concepts, research and interventions relating to the self and shyness* (pp. 159–183). Chichester, UK: Wiley.

Evans, M. A. (2010). Language performance, academic performance and signs of shyness: A comprehensive review. In K. H. Rubin & R. J. Coplan (Eds.), *The development of shyness and social withdrawal*. New York: Guilford Press.

Evans, M. A., & Audet, D. (2014, July). Parent beliefs and goals about shared book reading shape their behavior. In M. A. Evans (Chair), *Parent and teacher beliefs: Do they matter for emergent literacy*. Santa Fe, New Mexico: Society for the Scientific Study of Reading.

Evans, M. A., Barraball, L., & Eberle, T. (1998). Parental responses to miscues during child-to-parent book reading. *Journal of Applied Developmental Psychology, 19*, 67–84. doi:10.1016/S0193-3973(99)80028-8.

Evans, M. A., & Bienert, H. (1992). Control and paradox in teacher conversations with shy children. *Canadian Journal of Behavioural Science, 24*, 502–516. doi:10.1037/h0078758.

Evans, M. A., Moretti, S., Shaw, D., & Fox, M. (2003). Parent scaffolding in children's oral reading. *Early Education and Development, 14*, 363–388. doi:10.1207/s15566935eed1403_5.

Gilman, P. (1990). *Grandma and the pirates*. Toronto, ON: Scholastic.

Goodman, K. S. (1969). Analysis of oral reading miscues: Applied psycholinguistics. *Reading Research Quarterly, 5I*, 9–30.

Gordon, E. M., & Thomas, A. (1967). Children's behavioral style and the teacher's appraisal of their intelligence. *Journal of School Psychology, 5*, 292–300.

Graves, K. (1994). *I can't sleep*. Cypress, CA: Creative Teaching Press.

Greco, L. A., & Morris, T. L. (2002). Paternal child-rearing style and child social anxiety: Investigation of child perceptions and actual father behaviour. *Journal of Psychopathology and Behavioural Assessment, 24*, 259–267. doi:10.1023/A:1020779000183.

Heubusch, J. D., & Lloyd, J. W. (1998). Corrective feedback in oral reading. *Journal of Behavioural Education, 8*, 63–79. doi:10.1023/A:1022864707734.

Hoffman, J. V., & Clements, R. (1984). Reading miscues and teacher verbal feedback. *The Elementary School Journal, 84*, 423–439. doi:10.1086/461374.

Hoffman, J. V., O'Neal, S., Kastler, L. A., Clements, R. O., Segal, K. W., & Nash, M. F. (1984). Guided oral reading and miscues focussed verbal feedback in second-grade classrooms. *Reading Research Quarterly, 19*, 367–384.

Hope, D. A., Rapee, R. M., Heimberg, R. G., & Dombeck, M. J. (1990). Representations of the self in social phobia: Vulnerability to social threat. *Cognitive Therapy and Research, 14*, 177–189. doi:10.1007/BF01176208.

Hudson, J. L., & Rapee, R. M. (2001). Parent-child interactions and anxiety disorders: An observational study. *Behaviour Research and Therapy, 39*, 1411–1427. doi:10.1016/S0005-7967(00)00107-8.

Hudson, J. L., & Rapee, R. M. (2002). Parent-child interactions in clinically anxious children and their siblings. *Journal of Clinical Child and Adolescent Psychology, 31*, 548–555. doi:10.1207/153744202320802214.

Keaten, J. A., Kelly, L., & Finch, C. (2000). Effectiveness of the Penn State program in changing beliefs associated with reticence. *Communication Education, 49*, 134–145. doi:10.1080/03634520009379201.

Kristensen, H., & Oerbeck, B. (2006). Is selective mutism associated with deficits in memory span and visual memory? An exploratory case–control study. *Depression and Anxiety, 23*, 71–76. doi:10.1002/da.20140.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 89–94.

Levin, I. P., & Hart, S. (2003). Risk preferences in young children: Early evidence of individual differences in reaction to potential gains and losses. *Journal of Behavioural Decision Making, 16*, 397–413. doi:10.1002/bdm.453.

Lovett, M. W., Barron, R. W., Forbes, J., Cukst, B., & Steinbach, K. (1994). Computer speech-based training of literacy skills in neurologically impaired children: A controlled evaluation. *Brain and Language, 47*, 117–154. doi:10.1006/brln.1994.1045.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk*. Mahwah, NJ: Erlbaum.

Magnusson, D., & Hakan, S. (1998). Person-context interaction theories. In W. Damon & R. Lerner (Eds.), *Handbook of child psychology: Volume 1: Theoretical models of human development* (5th ed., pp. 685–759). Hoboken, NJ: Wiley.

Mansell, J., Evans, M. A., & Hamilton-Hulak, L. (2005). Developmental changes in parents' use of miscue feedback during shared book reading. *Reading Research Quarterly, 40*, 294–317. doi:10.1598/RRQ.40.3.1.

Marshall, P. J., & Stevenson-Hinde, J. (2001). Behavioral inhibition; Physiological correlates. In W. R. Crozier & L. E. Alden (Eds.), *International handbook of social anxiety: Concepts, research, and interventions relating to the self and shyness* (pp. 53–78). New York: Wiley.

McBryde, C., Ziviani, J., & Cuskelly, M. (2004). School readiness and factors that influence decision making. *Occupational Therapy International, 11*, 193–208.

McCroskey, J. C., & Daly, J. A. (1976). Teacher expectations of the communication apprehensive child in the elementary school. *Human Communication Research, 3*, 67–72. doi:10.1111/j.1468-2958.1976.tb00505.x.

McGee, K. M., Kim, H., Nelson, K. S., & Fired, M. D. (2015). Change over time in first graders' strategic use of information at point of difficulty in reading. *Reading Research Quarterly, 50*, 263–291. doi:10.1002/rrq.98.

Meyer, L. A. (1982). The relative effects of word-analysis and word-supply correction procedures with poor readings during word-attack training. *Reading Research Quarterly, 17*, 544–555. doi:10.2307/747570.

Minarik, E. H. (1968). *A kiss for little bear*. New York: Harper Trophy.

Moore, P. S., Whaley, S. E., & Sigman, M. (2004). Interactions between mothers and children: Impacts of maternal and child anxiety. *Journal of Abnormal Psychology, 113*, 471–476. doi:10.1037/0021-843X.113.3.471.

Neuman, S. B. (1996). Children engaging in storybook reading: The influence of access to print resources, opportunity, and parental interaction. *Early Childhood Research Quarterly, 11*, 495–513. doi:10.1016/S0885-2006(96)90019-8.

Normandeau, S., & Guay, F. (1998). Preschool behavior and first-grade school achievement: The mediational role of cognitive self-control. *Journal of Educational Psychology, 90*, 111–121.

Perkins, V. L. (1988). Feedback effects on oral reading errors of children with learning disabilities. *Journal of Learning Disabilities, 21*, 244–248. doi:10.1177/002221948802100412.

Rapee, R. M. (2001). The development of generalized anxiety. In M. W. Vasey & M. R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 481–503). New York: Oxford University Press.

Rapee, R. M., & Spence, S. H. (2004). The etiology of social phobia: Empirical evidence and an initial model. *Clinical Psychology Review, 24*, 737–767. doi:10.1016/j.cpr.2004.06.004.

Reiben, L., & Perfetti, C. A. (2010). *Learning to read: Basic research and its implications*. Mahway, NJ: Lawrence Erlbaum Associates.

Reynolds, K. P., & Evans, M. A. (2009). Narrative performance and parental scaffolding of shy and nonshy children. *Journal of Applied Psycholinguistics, 30*, 363–384. doi:10.1017/S0142716409090158.

Rowe, D. C., & Plomin, R. (1977). Temperament in early childhood. *Journal of Personality Assessment, 41*, 150–156. doi:10.1207/s15327752jpa4102_5.

Rubin, K. H., & Burgess, K. B. (2002). Parents of aggressive and withdrawn children. In M. H. Bornstein (Ed.), *Handbook of parenting* (Vol. 3, pp. 393–418). Mahwah, N.J: Erlbaum.

Sameroff, A. J. (1993). Models of development and risk. In C. H. Zeanah Jr. (Ed.), *Handbook of infant mental health* (pp. 3–13). New York: Guilford Press.

Share, D. L. (1995). Phonological recoding and self-teaching: Sine qua non of reading acquisition. *Cognition, 55*, 151–218. doi:10.1016/0010-0277(94)00645-2.

Siqueland, L., Kendall, P. C., & Steinberg, L. (1996). Anxiety in children: Perceived family environments and family interaction. *Journal of Clinical Child Psychology, 25*, 225–237. doi:10.1207/s15374424jccp2502_12.

Smolkin, L. B., Yaden, D. B., Jr., Brown, L., & Hoffman, B. (1992). The effect of genre, visual design choices, and discourse structure on preschoolers' responses to picture books during parent-child read-alouds. *National Reading Conference Yearbook, 41*, 291–301.

Spaai, G. W. G., Ellermann, H. H., & Reitsma, P. (1991). Effects of segmented and whole-word sound feedback on learning to read single words. *Journal of Educational Research, 84*, 204–213. Retrieved from http://www.heldref.org/pubs/jer/about.html

Speece, D. L., Ritchey, K. D., Cooper, D. H., Roth, F. P., & Schatschneider, C. (2004). Growth in early reading skills from kindergarten to third grade. *Contemporary Educational Psychology, 29*, 312–332. doi:10.1016/j.cedpsych.2003.07.001.

Spere, K. A., Schmidt, L. A., Theall-Honey, L. A., & Martin-Chang, S. (2004). Expressive and receptive language skills of temperamentally shy preschoolers. *Infant and Child Development, 13*, 123–133. doi:10.1002/icd.345.

Statistics Canada. (2013). 2011 *National Household Survey: Composition in Canada.* Ottawa, Canada. ISBN: 978-1-100-22544-9. Retrieved from www12statcan.gc.ca/nhs-enm/2011/assa/99-014-x/99-014-x2011001-eng.cfm

Steinhausen, H. C., & Juzi, C. (1996). Elective mutism: An analysis of 100 cases. *American Academy of Child and Adolescent Psychiatry, 35*, 606–614. doi:10.1097/00004583-199605000-00015.

Stoltz, B. M., & Fischel, J. E. (2003). Evidence for different parent-child strategies while reading. *Journal of Research in Reading, 26*, 287–294. doi:10.1111/1467-9817.00204.

Ting, K.-T. (2008). *Shyness, language and children: Can shyness predict children's primary and secondary language ability?* Honor's BA Thesis, Chinese University of Hong Kong.

Top, B. L., & Osguthorpe, R. T. (1987). Reverse-role tutoring: The effects of handicapped students tutoring regular class students. *The Elementary School Journal, 87*, 413–423. doi:10.1086/461505.

Tracey, D. H., & Young, J. W. (2002). Mothers' helping behaviors during children's at-home oral-reading practice: Effect of children's reading ability, children's gender, and mothers' educational level. *Journal of Educational Psychology, 94*, 729–737. doi:10.1037/0022-0663.94.4.729.

van Daal, V., & Reitsma, P. (1990). Effects of independent word practice with segmented and whole-word sound feedback in disabled readers. *Journal of Research in Reading, 13*, 133–148. doi:10.1111/j.1467-9817.1990.tb00330.x.

Wagner, R. K., Torgesen, J. K., & Rashotte, C. A. (1994). Development of reading related phonological processing abilities: New evidence of bidirectional causality from a latent variable longitudinal study. *Developmental Psychology, 30*, 73–87. doi:10.1037/0012-1849.30.1.73.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*, 848–872. doi:10.2307/1132208.

Wood, H., & Wood, D. (1983). Questioning the preschool child. *Educational Review, 35*, 149–162. doi:10.1080/0013191830350206.

Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W., & Chu, B. C. (2003). Parenting and childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child Psychology and Psychiatry, 44*, 134–151. doi:10.1111/1469-7610.00106.

Woodcock, R. (1998). *Woodcock reading mastery test*. Circle Pines, MN: American Guidance Service.

Chapter 8
The Hakalama: The ʻAha Pūnana Leo's Syllabic Hawaiian Reading Program

William H. Wilson and Kauanoe Kamanā

Abstract Hawaiian is the first indigenous language recognized as official in a state of the United States. It is also a highly endangered language and the object of a school-based revitalization movement. At the base of the movement are the Pūnana Leo preschools. Hawaiian literacy is taught in them through the Hakalama, a syllabary using the Roman alphabet. Contemporary research has established that childhood cognitive development necessary to break words into syllables precedes the ability to break words into phonemes by approximately 2 years. The ʻAha Pūnana Leo seeks to take advantage of that research to produce a high level of literacy upon graduation from preschool. The Hakalama as developed by the ʻAha Pūnana Leo has similarities with the Japanese hiragana chart. The ʻAha Pūnana Leo has also developed a series of Hakalama mastery steps to produce the ability to read and write novel Hawaiian words and sentences. Assessments of students using the Hakalama shows that they are reaching a relatively high level of literacy by the end of preschool and that literacy in Hawaiian is transferring to literacy in English even before instruction in English.

Introduction[1]

"ha ka, la ma, na pa, wa ʻa…" chant the children at the Pūnana Leo preschool as one of the older students leads them pointing out consonant vowel pairs on a wall chart (see Fig. 8.1). This is the "Hakalama" syllabary used in these Hawaiian language medium preschools to teach early literacy. Later in the day some of the older Pūnana Leo students will be reading novel Hawaiian words and sentences using the Hakalama.

These 3- and 4-year-old children are reaping a unique benefit of attending preschool through the endangered Native Hawaiian language. They begin to master

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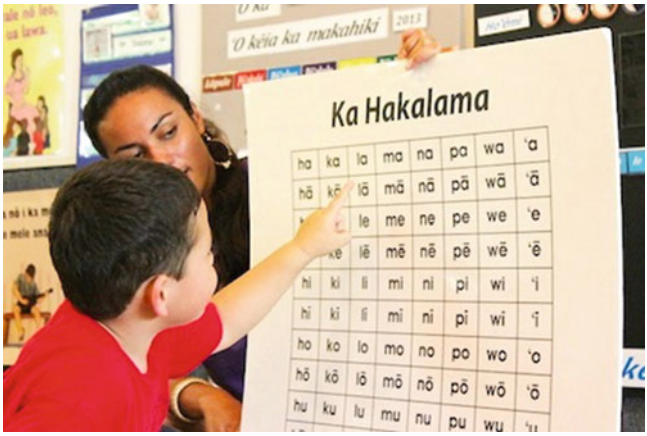

Fig. 8.1 Pūnana Leo student reciting the Hakalama syllabary

reading Hawaiian approximately 2 years before their peers in English medium education begin to master reading English. Features of their Hawaiian language of instruction and its writing system align closely with ordered stages of childhood brain development allowing for early literacy acquisition. The Polynesian Hawaiian language is especially well-suited for learning to read by syllables, a method unavailable for English.

By the time the brains of Pūnana Leo graduates are ready to learn to read by phonemes – the single sound method required for reading English – these children will be in elementary school and will have already developed reading skills in Hawaiian. Later, these children will transfer skills in reading Hawaiian to reading Japanese and English. This chapter will explore the science behind the Hakalama, some of its history and some of the challenges that those using it face in the context of contemporary American education.

The Relationship of Metalinguistic Development to Early Literacy

To learn to read, a speaker of a language must be able to conciously analyse that language into segments and connect those segments to written symbols. The growth of a child's brain through stages where such language analysis occurs is the child's metalinguistic development. Over the past several decades, research has provided much information about how that progression relates to the acquisition of literacy. At an early stage of development, children begin to separate out full words from streams of speech. The next stage involves the ability to separate out the syllables of a word. The last skill is to separate phonemes from a syllable (Fox & Routh, 1974; Lonigan, 2006; Lonigan, Burgess, & Anthony, 2000). Figure 8.2 illustrates these

AGE (years)	UNITS	ENGLISH	HAWAIIAN
3	words	crocodile /krɑkədɑjl/	hīnālea
4	syllables	croc-o-dile / krɑk–ə–dɑjl/	hī-nā-le-a
6	phonemes	c-r-o-c-o-d-i-l-[e] /k–r–ɑ–k–ə–d–ɑj–l/	h-ī-n-ā-l-e-a

Fig. 8.2 Metalinguistic awareness stages and ages

stages with the English word “crocodile” and the Hawaiian word “hīnālea”, ‘*Thalassoma duperrey*’, a type of fish.

The ages chosen to illustrate the stages in Fig. 8.2 are not absolute, but represent approximations (Fowler, 1991; Lonigan, Burgess, Anthony, & Barker, 1998) and relative difficulty of conscious analysis (Burgess, 2006; Carroll, Snowling, Hulme, & Stevenson, 2003; Lonigan, 2006). Full mastery of one level is not required before children move on to aspects of the next level. Furthermore, the above metalinguistic ordering can be further broken down into substeps. For example, between the syllable and the phoneme, is a substep where a syllable is broken into two parts: a beginning or “onset” and an ending or “rime”. In this example, the initial syllable “croc-” of “crocodile” begins with the onset “cr-“and ends with the rime “-oc”.

The individual steps in childhood metalinguistic development differ in importance for acquiring literacy in different languages. In Chinese, the focus of initial literacy is primarily on symbols representing single-morpheme, single-syllable words. Because of this focus, initial meaningful acquisition of reading through Chinese characters can begin quite young – around age three, as is common in Hong Kong (Zhang & McBride-Chang, 2011). For Japanese, initial acquisition of reading is focused on syllables, or more properly “mora” – essentially short syllables – that form multi-syllable words. Childhood literacy acquisition in Japanese typically begins with the hiragana syllabary around age four (Matsumoto, 2004; Sakamoto, 1975). For English, the focus is primarily on phonemes, which are represented with letters of the English version of the Roman alphabet. Enrolment in first grade at age six, is generally when children are expected to seriously begin mastery of English reading (Armbruster, Lehr, & Osborn, 2003; Mather & Wendling, 2012; National Reading Panel, 2000).

Late initial mastery of reading in English compared to that in Chinese and Japanese can be related to the relative difficulty of metalinguistic recognition of phonemes. While syllabic awareness appears naturally in children, phonemic awareness is less natural and may not develop, even in adults, without instruction in

an alphabetic writing system (Fowler, 1991; Adrian, Alegria, & Morais, 1995; Nagy & Anderson, 1995; Carroll et al., 2003, Share, 2014).

Hawaiian has a number of advantages in its structure and writing system that make it easier to learn to read than English. Hawaiian words are generally multisyllabic and constructed from 45 basic syllables that have both long and short versions. The syllabic structure of Hawaiian therefore makes it possible to memorize symbols for all Hawaiian syllables and begin reading syllabically before kindergarten. English words, on the other hand, are structured using over 15,000 different syllables making an English syllabary impractical (Baker, 2014).

Moving from syllabic reading to phonemic reading is also quite easy in Hawaiian. What are called *huahakalama* ("Hakalama unit symbols") e.g., "ha", "he", "hi", etc. are already separated into consonental onset and vocalic rime phoneme units represented by distinct letters. Furthermore, the phonotactics of Hawaiian, that is the way that its phonemes are arranged in words, does not include the complicated consonant clusters at the beginning and ends of syllables that are a challenge in acquiring initial phonemic reading through English. For example, the single-syllable English word *strips* contains three initial consonants and two final consonants.

An additional advantage of Hawaiian is its highly regular writing system. Hawaiian is written with highly transparent phoneme to letter correspondences, parallel to Finnish, the European language with the most regular orthography. In contrast to Hawaiian and Finnish, English has a highly irregular orthography (Share, 2014). The irregularity of the English orthography plays a major role in it being the most difficult of the European languages in which to learn initial literacy. By the end of first grade, children in Finland can read Finnish with a rate of just 2% mistakes. This contrasts with a rate of 66% mistakes for first grade readers in England (Ziegler & Goswami, 2006).

The close alignment of the phonotactics of Hawaiian and its writing system played a major role in the high literacy outcomes of nineteenth century Hawaiian medium public education and its policy of initial childhood enrollment at age four (Pukui, Haertig, & Lee, 1972b). Subsequent to public Hawaiian medium education being outlawed in 1896, the Hawaiian language was nearly exterminated and Native Hawaiians, once the most literate of the major ethnic groups in Hawai‘i, became the least literate in the islands (Wilson & Kamanā, 2006). The successes and challenges of contemporary early childhood literacy development in Hawaiian relate very much to a movement to overcome the effects of past and present political and societal barriers to use of Hawaiian (Wilson, 2012; Wilson & Kamanā, 2001).

The Pūnana Leo Hawaiian Preschools and Follow-Up Programing

Contemporary Hakalama syllabic reading and the term "Hakalama" itself developed in the Pūnana Leo preschools. The Pūnana Leo are full day, 5-day a week, 11-months per year private preschools conducted entirely through the Hawaiian

language. They are operated at thirteen sites on various Hawaiian islands by the non-profit ʻAha Pūnana Leo. Students enroll at age three and remain in the program for 2 years.

Inspired by the Kōhanga Reo Māori language movement of New Zealand, the ʻAha Pūnana Leo was founded in 1983 to revitalize the highly endangered Hawaiian language. Similar movements are occurring worldwide (Grenoble & Whaley, 2006). At the founding of the ʻAha Pūnana Leo, the Hawaiian language was spoken fluently primarily by elders born before 1920 and by a small relic population of some 200 people of all ages on the remote island of Niʻihau (Wilson & Kamanā, 2001).

The ʻAha Pūnana Leo began a movement that has resulted in an integrated preschool through university (P-20) system of education through the medium of Hawaiian. That P-20 system is most fully developed and internally articulated in Hilo, Hawaiʻi. Hilo is the site of the ʻAha Pūnana Leo state administrative office, the Nāwahīokalaniʻōpuʻu (Nāwahī) laboratory school and the state Hawaiian language college Ka Haka ʻUla O Keʻelikōlani. Within this integrated total Hawaiian language-administered system, it is possible to enter at preschool, complete high school through Hawaiian, and then pursue a B.A., teaching certificate, master's degree, and Ph.D. all through Hawaiian. Increasingly, the products of this system are raising their children as first language speakers of Hawaiian further strenghthening the movement (Wilson, 2014).

We, ourselves, have been highly involved in the above three entities, being among their founders. We continue to teach in their various programs including Pūnana Leo and Nāwahī. Second language speakers of Hawaiian ourselves, we were among the first such couples raising children as first language speakers (Wilson & Kamanā, 2013). Both our children attended the Pūnana Leo O Hilo and graduated from Nāwahī. The establishment of the ʻAha Pūnana Leo's Hakalama reading program, its further development, and in-service support to teachers on its use has in large part been the result of our work over the past 30 years.

The Establishment of the Hakalama

In early 1985, after closing an unsuccessful initial Pūnana Leo, the ʻAha Pūnana Leo opened two new sites with close supervision by Kamanā. The key factors in the success of these two subsequent sites was full use of Hawaiian by staff at all times and insistence that children respond in Hawaiian. The focus of these sites was on reproducing as much as possible the experiences of growing up in a Hawaiian-speaking home of the early twentieth century. Hawaiian culture includes attention to strict training of children from an early age and a focus on memorization. While originally lacking writing, Hawaiian culture is highly oriented toward symbolism. Hawaiians adopted the written word very quickly and integrated literacy into existing traditions (Pukui, Haertig, & Lee, 1972a, 1972b). The integration of literacy into Hawaiian culture can be seen until today in Niʻihau church services where the entire congregation rises individually regardless of age to read orally from the Bible.

Very young children do this initially with assistance from an adult (Williams, 2014). Similar traditions are also characteristic of a number of other Polynesian peoples (Tagoilelagi-Leota, McNaughton, MacDonald, & Ferry, 2005). Indigenous literacy traditions are also found elsewhere in the world, some of which involve syllabaries, for example, the Cherokee and Cree syllabaries (Share, 2014).

One elder working with Hawaiian language revitalizationists, Mrs. Mālia Craver, described how she was taught as a young child by her grandparents to recite the Hawaiian consonant-initial syllables in a simple chant as part of being taught to read Hawaiian at home (Craver, 1981). We wanted to reintroduce this custom into the Pūnana Leo. However, we also wanted the recitation of syllables to reflect changes to the Hawaiian orthography. These changes are important for maintaining in writing the distinctive pronuncation of the oral language not indicated in the Hawaiian alphabet standardized by missionaries from New England in 1826 (Schütz, 1994).

Mrs. Craver pronounced each consonant-vowel syllable with a long vowel. In order to reflect current spelling, we added a macron to indicate the long vowel sound. Then, we added in line-final position an additional consonant: the ʻ*okina* or glottal stop indicated by a single open quote mark. This then left the short vowels, which we added in lines immediately above the original long vowel lines. Figure 8.3 illustrates the Pūnana Leo Hakalama chart with the even numbered lines 2, 4, 6, 8 and 10, except for the glottal stop-initial *huahakalama*, being the part originally demonstrated by Mrs. Craver.

The Craver version and the 1985 Pūnana Leo version were nearly identical in pronunciation and rhythm at the long vowel level, however, our adding the short

1	ha	ka	la	ma	na	pa	wa	ʻa
2	hā	kā	lā	mā	nā	pā	wā	ʻā
3	he	ke	le	me	ne	pe	we	ʻe
4	hē	ke	lē	mē	nē	pē	wē	ʻē
5	hi	ki	li	mi	ni	pi	wi	ʻi
6	hī	kī	lī	mī	nī	pī	wī	ʻī
7	ho	ko	lo	mo	no	po	wo	ʻo
8	hō	kō	lō	mō	nō	pō	wō	ʻō
9	hu	ku	lu	mu	nu	pu	wu	ʻu
10	hū	kū	lū	mū	nū	pū	wū	ʻū
11		a	e	i	o	u		
12		ā	ē	ī	ō	ū		

Fig. 8.3 The ʻAha Pūnana Leo Hakalama chart

vowels required a different approach as it is impossible in Hawaiian to stress a "word unit" containing a single mora, i.e., a single short vowel. The solution was to pronounce short syllables in pairs as if they were two mora words, e.g., *haka, lama, napa, waʻa*. Through reciting the chart in this way, a contemporary name developed for it based on the first line, i.e., *Hakalama*.

We produced a Hakalama chart for the Pūnana Leo O Hilo and children recited it in a learning circle with each *huahakalama* pointed to as it was recited. We then experimented with teaching older children to read using cards with *huahakalama* written on them and fitting the words together with those cards. For example, *"maka"* 'eye' would be put together with a card with *"ma"* and a card with *"ka"*. From Hilo we expanded this practice to the other Pūnana Leo sites.

In 1986, after 3 years of lobbying state legislators, we convinced them to pass two pieces of landmark legislation. One provided an exemption to our Pūnana Leo teachers from preschool teacher training requirements. We needed this because we taught through a highly endangered language for which native speaker college-trained teachers and language-specific preschool teacher education did not exist. The other legislation removed a 90-year old ban on the use of Hawaiian in the public schools (Wilson & Kamanā, 2001).

When the state Department of Education did not open a Hawaiian language kindergarten for the 1986–1987 school year, we established a kindergarten at the Pūnana Leo O Hilo. That kindergarten was called Papa Kaiapuni Hawaiʻi (Hawaiian Environment Class). Use of the Hakalama in teaching reading was a key part of that Papa Kaiapuni Hawaiʻi. The next school year, the state allowed the Papa Kaiapuni Hawaiʻi into the public schools. The Hakalama followed the program into the public schools. There then followed 12 years of intense attention to moving up one grade per year with new Hawaiian speaking teachers and new Hawaiian language materials required each year, all produced outside the state Department of Education. Indeed, when we began in the public schools in the 1987–1988 school year, teachers were expressedly told that there would be no literacy instruction through Hawaiian in the public school classrooms "because Hawaiian is an oral language" (personal communication Alohalani Housman, 2014.) The enrolled families and teachers simply refused that directive. The children had already learned basic reading of simple Hawaiian words under the ʻAha Pūnana Leo before they entered the state school site. Refusing to comply with that directive was the first of many acts of resistence that played a key role in the establishment of a full public stream of Hawaiian language medium education.

Adding the Vowel Lines

Once the first seniors had graduated from the Hawaiian language medium system in 1999, the ʻAha Pūnana Leo returned to focus on the preschool level and developing Hakalama curriculum materials for its schools. The Hakalama remained a purely consonant-initial chart until 2005 when the two vowel lines were added as shown in

lines 11 and 12 in Fig. 8.3. Adding the vowel lines made it possible to spell all indigenous Hawaiian words from the chart.

A challenge in adding the vowel lines involves reciting them without glottal stops. The phonotactics of Hawaiian allow for the insertion of a meaningless glottal stop at the beginning of a phrase. To avoid those *meaningless* glottal stops, the recitation of the two final lines of the Hakalama chart is done as if those lines were part of a single long phrase beginning with the *meaningful* glottal stop at the end of line 10. That long phrase is internally integrated through insertion of non-phonemic "w" and "y" glides in a phenomenon somewhat like *liaison* in French. Such inserted glides are a characteristic of phrase internal speech in Hawaiian and must be practiced for fluent reading of the language.

Another Hakalama pronunciation issue involves the short vowels of line 11. Certain sequences of short vowels in Hawaiian coalesce in rapid speech to form diphthongs. Those diphthongs then affect stress placement and syllabication. To further the importance of attention to stress and timing, we established a method of clapping out the Hakalama. One clap is given for every short vowel and two claps for every long vowel or diphthong – that is one clap for each mora. The most challenging aspect of teaching initial Hawaiian literacy remains consonant-less vowels.

The ʻAha Nuʻukia and Hakalama Teacher Training

In 2005, the ʻAha Pūnana Leo began an annual summer week-long in-service teacher training retreat – the ʻAha Nuʻukia. The intial years of the ʻAha Nuʻukia focused on strengthening the Hawaiian language and cultural base of the schools as found in its Kumu Honua Mauli Ola philosophy (ʻAha Pūnana Leo and Ka Haka ʻUla O Keʻelikōlani, 2009). In the 2011 retreat we increased attention to the Hakalama. Since then, Hakalama teaching methodology has increased in sophistication and teachers have annually grown in their skills in teaching preschool Hawaiian reading and writing.

Once an individual child can chant the Hakalama and point out each symbol as it is pronounced, the next step is for the child to realize that the *huahakalama* symbols of the Hakalama can be used to represent any word or sentence in Hawaiian. At a very simple level, several of the long vowel *huahakalama* are themselves names of individual objects, e.g., *hā* 'taro leaf stalk,' *kā* 'sweet potato runners,' *pā* 'plate.' The next level of understanding is that those symbols also represent a word's homonyms, for example, children are able to move from *pā* 'plate' to *pā* 'shinning of the sun.' Children then move to building words that are reduplications, such as, *pāpā* 'daddy' and then other words from other phonotactic categories and finally full sentences and paragraphs.

The ʻAha Nuʻukia is crucial as the ʻAha Pūnana Leo faces major workforce challenges. Teachers are typically hired with minimal understanding of the use of Hawaiian as a medium of education. Once trained and supported with university classes, many teachers leave the ʻAha Pūnana Leo for better paying employment in the public elementary school Hawaiian immersion program. That turnover averaged

Fig. 8.4 Pūnana Leo teachers at the ʻAha Nuʻukia training

18.5 % over 2012 and 2013 (Kēhaulani Shintani, personal communication, 2014). High turnover affects the ability to deliver a strong Hakalama reading program and requires constant attention to development of teacher skills to produce improved student outcomes (Fig. 8.4).

Assessing Early Literacy from a Hakalama Base

In 2011, the ʻAha Pūnana Leo developed assessments of student Hakalama mastery and began to test them out at the Pūnana Leo O Hilo. The assessments in their current stage of development address five skill areas. The assessments are given individually to children by a single test administrator and are timed at a length of 1 min each. Each assessment is given once at the beginning, middle, and end of the school year with 3- and 4-year-olds taking different assessments. The tested skills are illustrated in Fig. 8.5.

The test administrator has indicated that some children have been shy in demonstrating their skills to her, a stranger. Nevertheless, assessments indicate growth over the three test points and between the two age levels. At the end of the 2012–2013 school year, 100 % of the 21 first-year students demonstrated an ability to individually chant portions of the 90 Hakalama chart (Test I); 70 % accurately pointed out some *huahakalama* while doing so (Test II); and 52 % identifed one or more *huahakalama* arranged out of order (Test III). Among the 19 second-year students, 94.7 % (all but one) completed the year demonstrating the ability to identify one or more *huahakalama* out of order (Test III); 68 % decoded one or more novel words (Test IV); and 63 % accurately decoded words in a novel 114 word paragraph (Test V). Among the twelve students that read through part of the para-

FIRST-YEAR STUDENTS (3-year-olds)

I. child can recite the Hakalama chant accurately with its ordered 90 huahakalama symbols

II. child can recite the Hakalama chant accurately and point out symbols chanted while doing so

III. child can pronounce *Huahakalama* arranged "out of order" (on sheet A)

SECOND-YEAR STUDENTS (4-year-olds)

III. child can pronounce *Huahakalama* arranged "out of order" (on sheet B)

IV. child can read novel words consisting of two or three *Huahakalama*

V. child can read short novel sentences in Hawaiian in a coherent paragraph

Fig. 8.5 Hakalama skill assessments

He manu ka nūnū. ʻIke au i ka nūnū ma Honolulu. Lohe wau i ke kani a ka nūnū ke holoholo wāwae ma ke ala pīpā. Nani ke kani a ka nūnū...

(*Pigeons are birds. I see pigeons in Honolulu. I hear the call of pigeons while I am walking on sidewalks. The call of pigeons is beautiful...)*

Fig. 8.6 The first 32 words (and translation) of the paragraph of test V

graph of Test V in the alloted time, the lowest word score was 5 words (red) and the highest was 30 words (blue), with the average being 17.5 words (green) (Fig. 8.6).

The ʻAha Pūnana Leo has been encouraged by continued growth in the skills of student cohorts. This indicates its teacher training is producing positive results. Critical pieces that have yet to be addressed include Hakalama reinforcement in the home and strategies for assisting students with distinctive difficulties. The goal is to have all Pūnana Leo students able to read a short novel paragraph before kindergarten entry.

Learning the Alphabet After Mastering Syllabic Decoding

Use of the Hakalama allows for early mastery of the alphabetic principle, i.e., systematic use of written symbols to represent the sounds of a language. Best practice for English medium preschools and kindergartens is to support the development of the alphabetic principle through first teaching the names of letters of the English alphabet followed by associating individual letters with English phonemes (Lonigan

1	A(ʻā), E(ʻē), I,(ʻī), O(ʻō), U(ʻū), H(hē), K(kē), L(lā), M(mū), N(nū), P(pī), W(wē), ʻ(ʻokina)
2	B(bē), C(sē), D(dē), F(fā), G(gā), J(iota), Q(kopa), R(rō), S(sā), T(tī), V(wī), X(kesa), Y(ieta), Z(zeta)

Fig. 8.7 Hawaiian alphabet (with names of letters)

et al., 2000). Within the Hakalama methodology, naming letters follows - rather than precedes – reading and writing by *huahakalama*. While Pūnana Leo schools teach traditional Hawaiian songs and dances using the alphabet, this cultural use differs from identification of individual letters as a base for beginning literacy.

The Hawaiian alphabet, illustrated in Fig. 8.7, differs from the English alphabet in the names of letters and in their ordering. The letters in set 2 of Fig. 8.7 are distinctive in representing non-indigenous phonemes found in the last names of some students, e.g., *Silva*, *Fujimoto*, *Chang*. There is also a limited number of Hawaiian words that use these borrowed letters, e.g., *nāhesa* 'snake', *berita* 'covenant', *zebera* 'zebra'. Such words are taught through a phonological approach in early elementary school after children can already read. Other than for teaching the reading of that small number of borrowed words, the purposes of learning the alphabet within the Hakalama methodology are to allow oral spelling and to have a memorized order of letters for alphabetizing lists.

Because most letter names in Hawaiian also name *huahakalama*, teaching the identification of letters by name before students can read and write using *huahakalama* can result in confusion in decoding and writing, for example, misspelling *He nūnū kēlā.* "That is a pigeon." as *hnnkl*. As shown below, letter and *huahakalama* names can be differentiated grammatically, but the subtle difference in usage does not justify simultaneous learning of both the names of letters and *huahakalama*.

ʻO ka nū kēia. This is *"nū"* (the letter "n".)
ʻO nū kēia. This is *"nū"* (the *huahakalama "nū"* or the word *"nū"* 'roar of wind'.)[1]

The Relationship of the Hakalama to Historical Practices

Mrs. Craver's chant that inspired the development of the Hakalama was not restricted to her family, but was once a general practice among Hawaiians (Pukui et al., 1972b). It derived from Hawaiian traditions combined with the teaching methodology used by American Christian missionaries. There are, however, considerable differences between the Hakalama of the ʻAha Pūnana Leo and the missionary-produced school materials. Compare, for example, the chart in Fig. 8.8 and the Hakalama chart in Fig. 8.3.

[1] In Hawaiian letters are treated as common nouns, huahakalama – and actual words – as proper nouns.

Fig. 8.8 A nineteenth century Hawaiian literacy chart

The early missionary primer charts for Hawaiian began with a vertical list of the letters of the alphabet. This was then followed by vertical lists of two letter combinations starting with vowel combinations and then consonant plus vowel combinations. Next were vertical lists of a samplings of words consisting of increasing numbers of letters. Essentially the same method was used for teaching English literacy in eighteenth and nineteenth century New England (van Kleeck & Schuele, 2010). That method brought to Hawai‘i by the missionaries also involved first spelling a word using letter names and then pronouncing that word. For example, the word *“PA”* was decoded in Hawaiian as follows: “P” (*pī*) “A” (*‘ā*) “PA” (*pā*) (Schütz, 1994).

The Pūnana Leo Hakalama chart emerged from Hawaiian family-maintained traditions without direct contact of the ‘Aha Pūnana Leo with missionary primer charts. Research of those charts and comparison with the Hakalama chart shows considerable differences. Unlike the missionary letter-combination lists, the Hakalama chart is organized horizontally rather than vertically and includes the glottal stop consonant at the end of the first ten lines as well as the differentiation of short and long vowels. The Hakalama chart also includes consonant-less single vowel *huahakalama syllables* distinct from vowel *letters*, letters whose Hawaiian names actually begin with the glottal stop (see Fig. 8.7.) These challenging single vowel *huahakalama syllables* are ordered at the end of the Hakalama chart and contrast with the missionary placement of two vowel-*letter combinations* earliest in their *letter combination* list. Note further that those missionary two vowel-letter

combinations represent multiple words in Hawaiian pronounced with different combinations of long and short vowels and sometimes the glottal stop. For example *"AU"* on the missionary chart represents the words: *au* 'I,' *aʻu* 'swordfish,' *āu* 'your,' '*au* 'swim,' and'*āū* an exclamation of surprise.

The oral use, as well as the written representation, of the Pūnana Leo Hakalama, differs considerably from the family oral practices of Mrs. Craver and the oral use of the missionary primers. First, recitation of the Hakalama does not involve a preceding recitation of the names of the letters of the Hawaiian alphabet and of Hawaiian numerals as recalled by Mrs. Craver. Then, unlike the missionary method of first spelling and then pronouncing individual words in verticle lists unrelated to the normal flow of reading, the Hakalama methodology involves smooth chanted 'reading' of all the *huahakalama* of the chart from left to right and top to bottom with simultaneous pointing to the individual symbols as they are chanted. The Hakalama methodology thus models the proper procedure for fluent decoding of sentences and paragraphs. Also, unlike the missionary methodology, there is no standard set of words to be taught, but instead an understanding is instilled in teachers regarding what combinations of *huahakalama* are most easy for initial decoding and which are the most difficult. Those combinations of *huahakalama* are taught by the teacher with individual words and horizontal lists of words "off the chart." From there students move to decoding full sentences and paragraphs in simple books.

The Transfer from Reading Hawaiian to Reading Japanese and English

The use of the Hakalama continues from the Pūnana Leo O Hilo into kindergarten at Nāwahī. Then, at first grade, all Nāwahī students are introduced to both oral and written Japanese as part of a 'heritage language' program honoring immigrant ancestors who intermarried with Native Hawaiians. Syllabic reading of Hawaiian using Japanese orthographic representations of *huahakalama* as hiragana and kanji facilitates the transition from reading Hawaiian to reading Japanese.

The other second language studied by all Nāwahī students is English. English is learned as a 'world language' to allow communication on a global level. Somewhat similar to some models of teaching English used in Europe (Pufahl, Rhodes, & Christian, 2001), English is introduced at Nāwahī with two fifty-minute classes per week beginning in grade 5. Students continue studying English through the medium of Hawaiian in a single class for the same amount of time through to grade 12.

Beginning literacy is not specifically taught for English at Nāwahī. Students enter grade 5 having already transferred their skills in reading Hawaiian to reading English. The transfer of literacy from Hawaiian to English is facilitated by the use of the same alphabet in the two languages and occurs because of previous student exposure and acquisition of oral and written English through interaction with the larger community. Factors facilitating literacy transfer from Hawaiian to English is the transfer of phonological awareness from Hawaiian to English and other positive

effects of bilingualism on English phonological awareness (Cummins, 1981; Canbay, 2011; Cisero & Royer, 1995; Bialystock, 2002; Dickson, McCabe, Clark-Chiarelli, & Wolf, 2004). Similar transfer of indigenous language literacy to literacy in English has been observed with children from other Polynesian language backgrounds in English dominant New Zealand (Tagoilelagi-Leota et al., 2005.)

The strong focus on Hawaiian as the medium of education throughout the Nāwahī curriculum provides a strong sense of identity between use of the Hawaiian language and academic success in a college preparatory program. Student skills in English grow over the 8-year period that students study the language, to the point where they are sufficiently prepared in English to enter English medium colleges upon high school graduation, an outcome similar to some European educational systems.

Looking back at the lead class from the Pūnana Leo O Hilo and subsequent classes who have moved through Nāwahī, it is clear that they did not suffer academically from learning to read through the Hakalama or from studying English as a world language. Since its first senior class, Nāwahī has maintained a 100 % high school graduation rate and 80 % college attendance rate. This compares very well with Hawai‘i public high school graduation and college attendance rates of 82 % and 54 % respecitively (Hawaii State Department of Education, 2013).

The Hakalama in the Age of NCLB and ESSA

Passage of the No Child Left Behind Act (NCLB) by the United States Congress in 2001 and its 2015 reauthorization as the Every Student Succeeds Act (ESSA) have created unique challenges for Hawaiian language medium education. There is much irony in the situation as the overall goal of NCLB and ESSA is to improve high school graduation and college attendance rates, especially among those of lower socio-economic backgrounds and from racial and linguistic minorities. The Nāwahī enrollment is approximately 95 % Native Hawaiian with approximately 70 % meeting US federal definitions of low socio-economic status (Wilson & Kamanā, 2011). A very high percentage of the students at Nāwahī also meet the United States federal definition of limited English proficient as almost all use either Hawaiian or Hawai‘i Creole English at home. In general, the 33 % who speak Hawaiian at home are among the highest performers. The success of these children has inspired more young parents to raise their children as first language speakers of Hawaiian.

Native Hawaiians represent approximately 28 % of the state public school enrollment and are the largest ethnic group in public schools. Native Hawaiian student high school graduation and college attendance has been between 5–20 % and 8–39 % lower, respectively, than that of the next three largest ethnic groups – Caucasians, Japanese, and Filipinos (Kamehameha Kamehameha Schools, 2014). With their high school graduation and college attendance rates above the combined state average for all ethnicities, Nāwahī students are therefore graduating from high school and attending college at rates much higher than are their Native Hawaiian peers.

NCLB and ESSA require academic achievment to be tested through English in order for states to receive federal education funding. Hawaiian is an official language of Hawaiʻi. The only other US jurisdiction with a full education system through a non-English language is Puerto Rico. NCLB allowed Puerto Rico to establish standards through Spanish and test student achievement through Spanish, but Hawaiʻi was not accorded such a provision for its non-English official language. Efforts are being made by the ʻAha Pūnana Leo and other entities to solve this anomoly under the ESSA. In the meantime parents at Nāwahī have been refusing to have their children take state assessments not in the language of instruction (Wilson, 2012).

Challenges also exist for the ʻAha Pūnana Leo at the preschool level and have existed for decades now. Aspects of government and private support for preschools in Hawaiʻi are predicated on accreditation by national preschool education entities. However all of those are English medium entities unfamiliar with teaching through Hawaiian, for example, the National Association for the Education of Young Children (NAEYC.)

In an effort to demonstrate programatic quality, the ʻAha Pūnana Leo sought the world's first accreditation based on educational principles articulated in the United Nations Declaration on the Rights of Indigenous Peoples. The accrediting agency was the World Indigenous Nations Higher Education Consortium (WINHEC), which in 2014 granted the ʻAha Pūnana Leo a 10-year accreditation. WINHEC's accreditation team included international experts, among whom were educators fluent in several indigenous languages including Hawaiian. The team singled out the Hakalama reading program for recognition in their final report.

WINHEC accreditation has been helpful with private funding entities, but government entities have yet to accept it. The ʻAha Pūnana Leo is also seeking distinctive state early childhood standards for Hawaiian medium education. The goal is alignment of standards to the distinctive features of literacy acquisition through Hawaiian, as well as the effects of using Hawaiian as the medium of instruction on other early education domains.

With the United States currently focusing on a single path to standards, assessment, and accreditation it is important to note that movements to revitalize indigenous languages and use them in schooling have very limited material and human resources. Those resources are better spent on producing teaching materials, initial teacher education (ITE) programs, and further developing curricula based in the distinctiveness of specific languages than on trying to force endangered indigenous languages into the same box as the huge English language. The ʻAha Pūnana Leo has so far been able to survive while resisting pressure to abandon its distinctiveness including its unique literacy program.

Roots in Tradition Bring Forth Life in Today's World

Mrs. Mālia Craver's childhood memories of learning to read by chanted syllables and Niʻihau traditions of public Hawaiian reading by little children have served as a basis for moving the Hawaiian language forward into the twenty-first century.

Fig. 8.9 Pūnana Leo students reading a word syllabically

Recognition of the value of the Hakalama is serving as an entry point for a broader valuing of educational approaches that have deep roots in Hawai‘i’s distinctive indigenous culture and history.

“ha ka, la ma, na pa, wa ‘a… chant the children as they change society. They carry on a traditional belief that language carries great power and is to be treated carefully and with respect. “*I ka ‘ōlelo nō ke ola; I ka ‘ōlelo nō ka make*” says the Hawaiian proverb that has inspired their schooling. ‘In language there is life; In language there is death.’ The Pūnana Leo children are carrying on the life of the Hawaiian language; in turn the language brings life to them, to their families, and to all of Hawai‘i.

Endnote

1. Images in Figs. 8.1, 8.4, and 8.9 are courtesy of the ‘Aha Pūnana Leo while the image from Fig. 8.8 is reprinted with permissions from the Hawaiian Mission Houses Historic Site and Archives.

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References

Adrian, J., Alegria, J., & Morais, J. (1995). Metaphonological abilities of Spanish illiterate adults. *International Journal of Psychology, 30*(3), 329–353.

‘Aha Pūnana Leo and Ka Haka ‘Ula O Ke‘elikōlani. (2009). *Kumu Honua Mauli Ola (A Hawaiian Educational Philosophy)*. Hilo, HI: Authors. Available as a download at http://www.ahapunanaleo.org/images/files/KHMO.pdf

Armbruster, B., Lehr, F., & Osborn, J. (2003). *Proven ideas for parents from research: A child becomes a reader – Kindergarten through grade 3*. Jessup, MD: The National Institute for Literacy.

Baker, C. (2014). *How many syllables does English have?* Retrieved from: http://semarch.linguistics.fas.nyu.edu/barker/Syllables/index.txt

Bialystock, E. (2002). Acquisition of literacy in bilingual children: A framework for research. *Language Learning, 52*(1), 159–199.

Burgess, S. (2006). The development of phonological sensitivity. In D. Dickinson & S. Neuman (Eds.), *Handbook of early literacy research:Volume II* (pp. 90–100). New York: The Guilford Press.

Canbay, O. (2011). Comparing the phonological awareness of bilingual and monolingual preschool children. *Procedia Social and Behavioral Sciences, 15*, 976–980.

Carroll, J., Snowling, M., Hulme, C., & Stevenson, J. (2003). The development of phonological awareness in preschool children. *Developmental Psychology, 39*(5), 913–923.

Cisero, C., & Royer, J. (1995). The development and cross-language transfer of phonological awareness. *Contemporary Educational Psychology, 20*, 275–303.

Craver, M. (1981). Leo hone o ke kupuna. In L. Kimura (Ed.), *Lau kukui student workbook* (pp. 109–110). Honolulu, HI: Department of Education, State of Hawaii.

Cummins, J. (1981). The role of primary language development in promoting educational success for minority students. In California State Department of Education (Ed.), *Schooling and language minority students: A theoretical framework* (pp. 3–49). Los Angeles: Evaluation, Dissemination and Assessment Center, California State University.

Dickson, D., McCabe, A., Clark-Chiarelli, N., & Wolf, A. (2004). Cross-language transfer of phonological awareness in low-income Spanish and English bilingual preschool children. *Applied Psycholinguistics, 25*, 323–347.

Fowler, A. (1991). How early phonological development might set the stage for phoneme awareness. *Haskins laboratories status report on speech research 1991, SR-105/106*, 53–64.

Fox, B., & Routh, D. (1974). Analyzing spoken language into words, syllables, and phonemes: A developmental study. *Journal of Psycholinguistic Research, 4*(4), 331–342.

Grenoble, L., & Whaley, L. (2006). *Saving languages: An introduction to language revitalization*. Cambridge, UK: Cambridge University Press.

Hawaii State Department of Education. (2013). *Discussion/committee action on the department of education's supplemental operating request for fiscal year 2014–2015 (power point dated October 15, 2013)*. Retrieved from: http://www.hawaiipublicschools.org/DOE%20Forms/budget/FINAL%20FIC%20presentation.pdf

Kamehameha Schools. (2014). *Ka Huakaʻi*. Honolulu, HI: Kamehameha Schools Research and Evaluation Division.

Lonigan, C. (2006). Conceptualizing phonological processing skills in prereaders. In D. Dickinson & S. Neuman (Eds.), *Handbook of early literacy research:Volume II* (pp. 77–89). New York: The Guilford Press.

Lonigan, C., Burgess, S., & Anthony, J. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology, 36*, 596–613.

Lonigan, C., Burgess, S., Anthony, J., & Barker, T. (1998). Development of phonological sensitivity in 2- to 5-year old children. *Journal of Educational Psychology, 90*, 294–311.

Mather, N., & Wendling, B. (2012). *Essentials of dyslexia assessment and intervention*. Hoboken, NJ: Wiley.

Matsumoto, H. (2004). Development of phonemic awareness and the beginning process of learning to read in Japanese speaking children. Hokkaido University Collection of Scholarly and Academic Papers. *Research and Clinical Center for Child Development Annual Report, 26*, 67–77.

Nagy, W., & R. Anderson. (1995, November) *Metalinguistic awareness and literacy acquisition in different languages*. Technical report No. 618. Urbana, IL: Center for the study of reading, University of Illinois Urbana-Champaigne.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction – reports of the subgroups*. Retrieved from: http://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf

Pufahl, I., Rhodes, N., & Christian, D. (2001). *What we can learn from foreign language teaching in other countries*. Washington, D.C.: Center for Applied Linguistics. Retrieved from http://www.cal.org/resources/digest/0106pufahl.html

Pukui, M., Haertig, E., & Lee, C. (1972a). *Nānā i ke kumu: Look to the source. Volume I*. Honolulu, HI: Hui Hānai of the Queen Lili‘uokalani Children’s Center.

Pukui, M., Haertig, E., & Lee, C. (1972b). *Nānā i ke kumu: Look to the source* (Vol. 2). Honolulu, HI: Hui Hānai of the Queen Lili‘uokalani Children’s Center.

Sakamoto, T. (1975). Preschool reading in Japan. *The Reading Teacher, 29*(3), 240–244.

Schütz, A. (1994). *The voices of Eden: A history of Hawaiian language studies*. Honolulu, HI: University of Hawai‘i Press.

Tagoilelagi-Leota, F., McNaughton, S., MacDonald, S., & Ferry, S. (2005). Bilingual and biliteracy development over the transition to school. *International Journal of Bilingual Education and Bilingualism, 8*(5), 455–479.

van Kleeck, A., & Schuele, C. (2010). Historical perspectives on literacy in early childhood. *American Journal of Speech-Language Pathology, 19*, 341–355.

Williams, R. (2014). ‘Ōlelo Odyssey. *In Hana Hou!: The magazine of Hawaiian Airlines, 17*(2), 92–105.

Wilson, W. (2012). USDE Violations of NALA and the Testing Boycott at Nāwahīokalani‘ōpu‘u School. *Journal of American Indian Education, 51*(3), 30–45.

Wilson, W. (2014). Hawaiian: A native American language official for a state. In T. Wiley, J. Peyton, D. Christian, S. Moore, & N. Liu (Eds.), *Handbook of heritage, community, and native American languages in the United States: Research, policy, and educational practice* (pp. 219–228). New York: Routledge.

Wilson, W., & Kamanā, K. (2001). Mai Loko Mai O Ka ‘I‘ini: Proceeding from a dream. The ‘Aha Pūnana Leo connection in Hawaiian language revitalization. In L. Hinton & K. Hale (Eds.), *The green book of language revitalization in practice* (pp. 147–176). San Diego, CA: Academic.

Wilson, W., & Kamanā, K. (2006). For the interest of the Hawaiians themselves: Reclaiming the benefits of Hawaiian-medium education. *Hūlili: Multidisciplinary Research on Hawaiian Well-Being, 3*(1), 153–181.

Wilson, W., & Kamanā, K. (2011). Insights from Indigenous language immersion in Hawai‘i: The case of Nāwahī School. In D. Tedick, D. Christian, & T. Williams (Eds.), *Immersion education: Practices, policies, possibilities* (pp. 36–57). Clevedon, UK: Multilingual Matters.

Wilson, W., & Kamanā, K. (2013). E paepae hou ‘ia ka pōhaku: Reset the stones of the Hawaiian house platform. In L. Hinton (Ed.), *Bringing our languages home: Language revitalization for families* (pp. 101–117). Berkeley, CA: Heyday.

Zhang, J., & McBride-Chang, C. (2011). Diversity in chinese literacy acquisition. *Writing Systems Research, 3*(1), 87–102.

Ziegler, J., & Goswami, U. (2006). Becoming literate in different languages: Similar problems, different solutions. *Developmental Science, 9*(5), 429–453.

Chapter 9
How Effective Is Morphological Awareness Instruction on Early Literacy Skills?

George Manolitsis

Abstract The present study examined whether morphological awareness instruction in Kindergarten classrooms contributes to the improvement of young children's early literacy skills (e.g., morphological and phonological awareness, print knowledge, vocabulary). Two quasi-experimental studies were implemented. Study 1 consisted of a treatment and a control group of young children and Study 2 consisted of two treatment groups and a control group. In both studies, the treatment groups received a 5 week intervention scheme with several morphological awareness activities. In Study 2, a second treatment group received an intervention scheme with activities which combined morphological and phonological awareness. Both studies' findings showed that the treatment groups which received morphological awareness instruction or a blended instruction on morphological and phonological awareness improved the morphological awareness abilities more than the control group. There were small or no transfer effects on the improvement of print knowledge and vocabulary. However, Study 2 showed that phonological awareness abilities improved only in the treatment group which received the blended instruction. According to the present findings, the teaching of morphemes in Kindergarten is beneficial for morphological awareness improvement, but it has to be combined with other early literacy activities in order to have broader effects on young children's literacy development.

Introduction

Early literacy development includes a number of oral language and code-related skills (see Storch & Whitehurst, 2002) that have been found over time to be important in supporting the development of skilled reading and writing (e.g., Kirby, Parrila, & Pfeiffer, 2003; Landerl & Wimmer, 2008; Papadopoulos, 2013). Linguistic awareness (or metalinguistic) – the ability to reflect on language and manipulate intentionally linguistic units (Gombert, 1992) – has been considered as one of the

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most important oral language skills for literacy learning. For many years phonological awareness – the ability to recognize and manipulate the sound components of words – has been the prominent metalinguistic ability examined in the area of studying oral language skills effects on literacy development (e.g., Papadopoulos, Georgiou, & Kendeou, 2009; Storch & Whitehurst, 2002). Therefore the hypothesis, which claimed that young children's awareness of sounds was a cornerstone in order to grasp the letter-sound principle and establish solid links between spoken and written speech, has put aside the idea that other metalinguistic abilities considered as meaning-related skills, such as morphological awareness, could also play a significant role in literacy development. For this reason, a growing interest has only lately emerged in the pedagogical value of morphological awareness instruction effects on literacy skills (see the reviews by Bowers, Kirby, & Deacon, 2010; Carlisle, 2010; Goodwin & Ahn, 2013).

Morphological awareness refers to the ability to identify and manipulate intentionally the morphemic units (prefixes, suffixes, bases) of words. According to the broadly accepted definition provided by Carlisle, "morphological awareness focuses on children's conscious awareness of the morphemic structure of words and their ability to reflect on and manipulate that structure" (1995, p. 194). Morphemes are the elementary units of meaning in a language and they can stand as single words (free morphemes) or as part of words (bound morphemes). The bound morphemes serve as bases of words (the root of a family of words) or as supplementary linguistic units (affixes) attached to words in order to specify particular meanings or grammatical roles (Carlisle, 2010; Ralli, 2005).

Alphabetic orthographies (e.g., Greek, English, French) depend not only on phonological coding, but also on morphological information (Casalis & Cole, 2009; Levin, Ravid, & Rapaport, 1999). Children learning to read in alphabetic orthographies such as Greek, which is the language spoken by the children of this study and it is a language with a rich morphology (see more for the morphological system of Greek in Ralli, 2003), use both phonological and morphological information in order to read (decode and understand) or spell a word (see more on learning to read Greek in Protopapas, in press). For example, the word "καλή", /kali/, "good" signifies a singular feminine adjective, because the ending sound /i/ of this word is written with the grapheme <η>; the orthographic representation of the ending /i/ with another grapheme would result in a non-acceptable word or in a word with different meaning (e.g., "καλοί", /kali/ signifies a plural masculine adjective). This information denotes the interplay between orthography and morphology, which enables the reader to understand the meaning of the word "καλή" or to know how to spell the word.

Early Morphological Awareness and Literacy Learning

Scholars' interest on studying morphological awareness has grown up rapidly since research findings disclosed an association between morphology and reading acquisition (e.g., Carlisle, 1995; Wolter, Wood, & D'zatko, 2009). A number of studies

have suggested an increasing contribution of morphological awareness to reading skills after the initial stages of learning to read (Carlisle & Stone, 2005; Kirby, Deacon, Bowers, Izenberg, Wade-Woolley, & Parrila, 2012) and a strong association with spelling skills (Deacon & Bryant, 2006) even in the first stages of learning to spell (Rubin, 1988). Interaction effects between morphological awareness development and spelling development have been suggested as well (Levin et al., 1999; Nunes, Bryant, & Bindman, 2006).

The findings of a few studies which focused on kindergartners' (4- to 6-year-olds) morphological awareness effects on early reading are contradictory (Carlisle, 1995; Lyster, 2002; Manolitsis, 2006). Particularly, some studies from a variety of languages (e.g., English, French, Greek, Norwegian) support an early link between facets of morphological awareness and early word reading skills in grade 1 (Casalis & Louis-Alexandre, 2000; Lyster, 2002; Manolitsis, 2006) or even in kindergarten (McBride-Chang, Wagner, Muse, Chow, & Shu, 2005), while other studies did not find a similar link before grade 2 (Apel & Diehm, 2014; Carlisle, 1995; Casalis & Cole, 2009; Grigorakis, 2014). Reading comprehension has been found to correlate significantly with kindergartners' morphological awareness in both grades 1 and 2 (Casalis & Louis-Alexandre, 2000; Grigorakis, 2014). In addition, most of the studies have shown that awareness of morphemes has a closer link with reading comprehension than with word reading (e.g., Deacon & Kirby, 2004; Kirby et al., 2012). It is notable, that no study, as far as I know, has examined whether early morphological awareness correlates with a broad range of early reading skills such as letter knowledge or print awareness before the systematic instruction of reading and writing, but only with emergent writing skills (Levin et al., 1999; Rubin, 1988) or with a limited assessment of letter knowledge (Casalis & Cole, 2009).

Given the widely accepted view that morphological awareness seems to contribute more strongly to later rather than earlier reading skills beyond phonological awareness (Deacon & Kirby, 2004), most of the intervention studies have been implemented for children at intermediate or higher grades of elementary school (e.g., Bowers & Kirby, 2010; Nunes, Bryant, & Olsson, 2003). Another plausible reason for the paucity of research in examining morphological awareness training in the preschool years could be that this metalinguistic ability is a difficult task for young children. This difficulty derives from the fact that morphological awareness acquisition entails the integration of phonological, semantic and syntactic knowledge (Carlisle & Nomanbhoy, 1993) as well as knowledge of morphemes' relational, selectional and distributional properties (Mahony, Singson, & Mann, 2000).

However, recent studies show that morphological awareness is a developing ability (Berninger, Abbott, Nagy, & Carlisle, 2010) which appears before the systematic teaching of literacy in elementary school (Levin et al., 1999; McBride-Chang et al., 2005). A number of studies have shown that morphological awareness of young children in kindergarten is limited but emerging (e.g., Carlisle, 2003; Casalis & Louis-Alexandre, 2000). Based on these findings of early signs of morphological awareness, the scholars' interest turned in how to improve this important metalinguistic ability for literacy learning in kindergarten by providing teaching experiences to raise young children's sensitivity to the morphemic structure of words.

Morphological Awareness Instruction and Early Literacy

Although there is little research on systematic teaching of morphemes in the classroom context, recent review studies, which examine morphological awareness intervention effects, all agree on the beneficial improvements in morphological awareness abilities (Bowers et al., 2010; Carlisle, 2010; Goodwin & Ahn, 2013). Furthermore, they are suggesting that teaching morphological awareness contributes to progress in word reading and spelling development (Bowers et al., 2010; Goodwin & Ahn, 2013), but there is little evidence of a definite contribution to improvement of reading comprehension (Carlisle, 2010; Goodwin & Ahn, 2013).

Morphological awareness training effects on early literacy acquisition has been examined in a handful of studies, but their findings are mixed. Although all of the studies concur with the view that teaching morpheme identification and their intentional manipulation in kindergarten improves young children's morphological awareness in a variety of languages (e.g., Casalis & Cole, 2009; Lyster, 2002), they reached different results for the effects of teaching morphemes on early reading development. Lyster (2002) found that teaching morphemes combined with some written speech activities in kindergarten has significant effects on word reading in grade 1, while two other studies found that teaching morphemes with entirely oral activities in kindergarten did not result in better reading skills in kindergarten (Apel & Diehm, 2014) and in grade 1 (Casalis & Cole, 2009) than teaching children within the ordinary instruction of the classroom. The contradictory findings between these studies might be explained by the findings of Bowers et al. (2010) which showed that integrated morphological awareness training with oral and written features of language (as in Lyster's (2002) study) is more fruitful for early reading development than isolated morphological awareness training (as in the latter studies).

However, two of the studies (Casalis & Cole, 2009; Lyster, 2002) found that morphological awareness enhancement interacted positively with the enhancement of phonological awareness abilities in kindergarten. In other words, it seemed that training in one skill benefited the other. Further evidence for the interaction effects of training in morphological awareness and phonological awareness are derived by a study examining children with speech impairments who received phonological awareness training in kindergarten and showed significant improvement in morphological awareness later in grade 2 (Kirk & Gillon, 2007). The review of 22 intervention studies by Bowers et al. (2010) concluded that morphological awareness instruction was more effective when implemented in early school years (kindergarten – grade 2 compared to grades 3–8) and in children with lower literacy skills (compared to those with more advanced literacy skills). In line with these conclusions, recently Ramirez, Walton and Roberts (2014) showed that an instruction program focusing on the joint training of vocabulary and awareness of compound words in kindergarten was more effective for children with low initial level of morphological awareness than for those with high morphological awareness development.

According to Carlisle (2010), scholars implement four different instructional approaches for the design of the morphological awareness instruction: (a) enhancing awareness of the morphological structure of words with game-like activities in which children have to break words into morphemes; (b) learning the meanings of affixes and base morphemes; (c) enhancing morphological problem solving with activities in which children are supported to take into consideration the constituent morphemes of a word in order to explain its meaning or its grammatical role; and (d) teaching children to apply morphological analysis strategies in order to find out actively the meaning of unfamiliar words.

The instruction of morphological awareness in kindergarten has adopted similar teaching approaches. Particularly, the instruction has included mainly oral, game-like activities such as taking roles of 'word detectives' in order to identify affixes, bases and word meanings (Apel & Diehm, 2014); synthesizing compound words made out of two word bases (door + mat: "doormat"); finding out the component words in compound words (e.g., "handbag": hand + bag); deleting one of the word bases and saying what is left or moving the last word base of the compound word in the front to create a new one (e.g., "baghand") and to decide whether this is a real meaningful word (Lyster, 2002); blending and segmenting prefixes, suffixes and bases (e.g., children were asked to pronounce the prefix and the base of the derived word "replay": "re" – "play" or to merge the base "sing" with the suffix "er" to make the word "singer"); and producing derived words ('children words') when the teacher gives the bases ('mother words') in order to learn the notion of word family (Casalis & Cole, 2009; Lyster, 2002).

It is obvious that although research on teaching morphological awareness has yielded positive results for the improvement of literacy, several issues remain unresolved. For example, why the effects of early teaching of morphemes on reading are weak, or what are the effects of early morphological awareness training on emergent literacy skills such as print knowledge, letter knowledge, and vocabulary. Given that most of the studies implemented early morphological awareness intervention taught kindergarten children in small groups of 4–5 children (Apel & Diehm, 2014; Casalis & Cole, 2009) and groups of 6–12 (Lyster, 2002), the effects of morphological awareness instruction implemented in a larger group of children in a typical classroom context needs to be examined. The only intervention study that has implemented an instruction program in the whole class context of kindergarten, did not include a control group and focused on a specific aspect of morphological awareness (Ramirez et al., 2014)

The Present Study

In this chapter, two quasi-experimental studies are reported which were designed to examine how morphological awareness instruction in the Greek kindergarten classroom influences different facets of early literacy development (e.g., morphological and phonological awareness, print knowledge, vocabulary). The aim of the first

study was to examine whether morphological awareness instruction in a classroom context improves children's morphological awareness and early literacy skills more than the mainstream literacy activities advocated by the national curriculum (for a discussion of the Greek curriculum see Tafa, 2004). This study focused primarily on the effects of teaching morphemes on the improvement of morphological awareness in Greek, which is a morphologically rich language, and secondarily whether there are teaching effects on code-related skills (early word reading, letter knowledge) as well as on phonological awareness. Based on the findings of previous studies in Greek which showed that morphological awareness is associated with reading (Grigorakis, 2014; Pittas & Nunes, 2014; Rothou & Padeliadu, 2014) and spelling (Nunes, Aidinis, & Bryant, 2006; Tsesmeli & Seymour, 2006), it was hypothesized that teaching morphological awareness in kindergarten would also contribute to children's early literacy learning.

Because the results of the first study would simply replicate in a Greek context and in a broader classroom setting the previous research findings on morphological instruction effects in kindergarten in other languages and instructional (small teaching groups) contexts (e.g., Casalis & Cole, 2009; Lyster, 2002), the second study was designed to examine unresolved issues on morphological awareness teaching effects in kindergarten. For example, no study, as far as I know, has examined the training effects of instruction in morphological awareness jointly with phonological awareness training. Although, a number of findings have documented the interplay between morphological and phonological abilities, such as the morphological awareness association with phonological awareness development (e.g., Carlisle & Nomanbhoy, 1993; Casalis & Louis-Alexandre, 2000), the beneficial effects of phonological transparency on the reading of derived words (Carlisle & Stone, 2005), there are no intervention studies which examined the effects on early literacy learning of jointly teaching phonological and morphological awareness (but see Kirk & Gillon, 2009, for joint instruction effects in grades 3 and 4).

Therefore, the second study was designed to compare the effects of two different morphological awareness training programs on kindergarteners' early literacy skills: one treatment group received an intervention scheme focused on the instruction of morphological awareness only as in study 1 (morphology group); the second group received an intervention scheme with activities which combined instruction of morphological and phonological awareness (blended group); and a third group as control received the typical instruction according to the mainstream kindergarten national curriculum. According to Casalis and Cole (2009), morphological and phonological awareness training has specific effects on each domain. Based on this suggestion, it was hypothesized that the children who received combined training of these metalinguistic domains would result in (a) a similar growth of morphological awareness with the children received a single training of morphological awareness; and (b) in a higher growth of phonological awareness than the experimental group trained only in morphology. Furthermore, given that instruction of morphemes in later elementary school grades is beneficial for vocabulary enrichment (Bowers & Kirby, 2010), it was examined whether morphological awareness inter-

vention effects on vocabulary have appeared already by the time of kindergarten, without the joint training of morphology with vocabulary. A control group was included to overcome limitations of previous studies (Ramirez et al., 2014).

Study 1

This study (Stavrakaki & Manolitsis, 2007) involved a quasi-experimental study with a pre-test / post-test design and a control group. Study 1 consisted of a treatment and a control group of kindergartners, in which the former group received systematic instruction in morphological awareness for 5 weeks by a trained teacher, and the latter received ordinary literacy instruction of the national curriculum (Cross Thematic Curriculum Framework for Kindergarten, 2003) by the classroom teacher.

Method

Participants

Forty one Greek-speaking children (age range = 62–78 months) from four classes, across two kindergartens in Crete, Greece were selected to participate in study 1. Each class was randomly allocated as a treatment classroom or a control classroom. Each class ranged from 18 to 22 children aged from 4 to 6 years, with children who met the criterion of age (above 62 months) participating in the study. Twenty-four of the children comprised the treatment group (14 boys and 10 girls; mean age = 67.54 months, *SD* = 3.18) and 17 were in the control group (9 boys and 8 girls; mean age = 68 months, *SD* = 4.83). All the participating children were native speakers of Greek, and were Caucasian, with no documented intellectual, sensory or behavioural difficulties. Parents' written consent to participate in the study was obtained prior to pre-test assessment.

Pre-test and Post-test Measures

Non-verbal Cognitive Ability The Raven's Coloured Progressive Matrices (Raven, 1956) which was adapted in Greek from Tsakris (1970) was used as a measure of non-verbal cognitive ability. Participants' score was the sum of correct items (max. 36). This task was administered in the pre-test assessment only in order to examine whether the cognitive level of the two groups of children was at a similar level.

Early Literacy Skills

Phonological Awareness Phonological awareness was assessed with the *Initial Sound Identification* task that was adopted from Manolitsis (2000). In *Initial Sound Identification*, the children were provided with the picture of a target word (e.g., /kota/ → chicken) and were then asked to choose which of three words shared the same initial sound with the target (e.g., /ɣata/, /molivi/, /kalaθi/ → cat, pencil, basket). The words were all presented as pictures. The task consisted of 10 items and was preceded by two practice items. The maximum score was 10.

Letter Knowledge Children were asked to identify the sound or the name of each of the 24 lowercase Greek letters presented randomly in a booklet. Each letter presented in a single page and children were allocated one point for each letter identified correctly by its name or sound.

Word Reading Children were asked to read aloud 10 high-frequency words (printed in lowercase letters) that were selected from the grade 1 language textbooks. Each word presented in a single page of a booklet. The maximum score was 10.

Morphological Awareness

Five tasks, adapted to Greek, were given orally to children to assess morphological awareness in kindergarten. All of the following tasks were presented in a game-like context with the support of puppets.

Production of Inflected Forms This task was adapted from the Production of Word Forms Test developed by Carlisle and Nomanbhoy (1993) and assessed children's awareness of inflected morphemes. Children were provided with a target base word and asked to produce the correct inflected form of the target word that complete a sentence grammatically, semantically and morphologically. The task consisted of 8 items and it was preceded by two practice items. The maximum score was 8.

Production of Derived Forms This task was adapted in Greek from the Test of Morphological Structure (Carlisle, 2000) and assessed children's awareness of derived morphemes. Children were provided with a target base word and asked to produce the correct derived form of the target word in order to complete a sentence (e.g., "swim. She was a very good …"). The task consisted of 8 items and it was preceded by two practice items. The maximum score was 8.

Formation of Compounds Children's ability to make a compound word from two given words (e.g., What word is formed from "snow" and "man" ?) was assessed with a task that was based on the Word Compounds test used by Lyster (2002). The

task consisted of 10 items and it was preceded by three practice items. The maximum score was 10.

Analysis of Compound Words Children were asked to pronounce separately the two word parts of a compound word (e.g., Can you guess which words made the big word "doorbell"). This task was based on the Morphemic Segmentation subtest used by Casalis and Louis-Alexandre (2000). The task consisted of 10 items and it was preceded by three practice items. The maximum score was 10.

Word Analogy The Word Analogy task, which was developed by Nunes, Bryant, and Bindman (1997) and adapted into Greek was used as a general measure of derived and inflected forms awareness. Children were asked to identify a morphological relationship between one pair of words and apply the same relationship to complete a second pair of words. The task consisted of eight items with inflected forms (e.g., "walk-walked", "help-…") and six items with derived forms ("four-fourth", "six-…") and it was preceded by three practice items. The maximum score was 14.

Procedure

All measures were individually administered in two sessions of 20 min each by a graduate student who received extensive training on administering the tasks. Literacy and morphological tasks were administered 15 days before the beginning of the intervention and 22 days after the intervention ended.

The two classrooms in the treatment group received an intervention scheme designed carefully in order to be integrated naturally in the ongoing kindergarten curriculum. The intervention was implemented by a trained graduate student who was also the teacher of one of the two kindergarten classes included in the treatment group. Teacher training was given by the author. Although during the training sessions all the students of the class participated in the intervention activities, only the participants of study 1 were assessed in the pre-test and post-test sessions. The intervention program was implemented across 5 weeks between March and April until 15 teaching sessions were completed. Each session lasted approximately 40–45 min and pursued a particular learning objective with a focused oral activity. The instructional design did not focus on teaching a specific set of morphemes (e.g., suffixes, prefixes), but participants were taught morphological problem solving skills and how to discern morphemes (e.g., bases, inflected suffixes, derivative forms, compounds) in spoken words in order to manipulate them intentionally and identify word families based on common morphological elements. The instruction included activities such as learning derivative nouns, diminutives, augmentatives, making compound words out of two words, making derivative forms of words (e.g., pronouncing the national names "Greek" from 'Greece', "Spanish" from 'Spain'), finding out the base words of derivative words and identifying families of words.

Other instructional activities encouraged children to generate inflected forms of words in playful contexts with puppet theatre, as well as to understand how the inflected affixes signify grammatical roles (e.g., changing nouns from singular to plural forms, changing the gender of adjectives, changing verbs from past tense to non-past tense). The final two sessions included review activities. During the intervention sessions no written words or letters were used. To determine treatment fidelity, the author (as the principal investigator) visited regularly the intervention classroom and inspected if the intervention was given according to the guidelines. Following each visit, the principal investigator reviewed the rules of the program and debriefed with the teacher.

The control group received the typical mainstream instruction following the national curriculum for kindergarten. In a typical Greek kindergarten, although children are not formally taught how to read and write, they are involved in emergent literacy activities with systematic exposure to print concepts through books, as well as encouragement of letter-sound knowledge, invented writing and phonological awareness (Tafa, 2004). No teaching of morphemes is included in the Greek kindergarten curriculum.

Results and Discussion

The statistical analyses were completed in two steps. First, the two groups were compared on the pre-test and the post-test measures. Second, a *t*-test comparison was performed within each group in order to examine the gains on morphological awareness and early literacy skills before and after the implementation of the instruction program.

Table 9.1 presents the mean scores and standard deviations for each group of children on the pre-test and post-test measures. The *t*-tests comparison showed first that there were no significant differences between the two groups on Raven's scores, $t(39) = 1.13$, $p > .05$, $d = .36$, and on age, $t(39) = .37$, $p > .05$, $d = .12$, before the beginning of the intervention. Also, no significant differences were found between the two groups on the pre-test measures, but only on two morphological tasks. Specifically, the two groups differed significantly on the pre-test production of inflected forms task, $t(39) = 2.98$, $p < .05$, and on the pre-test production of derived forms task, $t(39) = 2.22$, $p < .05$.

The results of the post-test comparisons showed that the morphological group performed significantly better than the control group on both measures of the production of word forms (inflectional and derived) task and on the formation of compound task. No post-test differences between the two groups were found on the rest of the morphological awareness tasks and on the early literacy tasks (see last column of Table 9.1). Also, an ANCOVA was performed with the pre-test measures as covariates for the two morphological tasks which differed on the pre-test assessment. According to these analyses, it was found that the group effect on the post-test assessment of the production of inflected forms task remained significant even after

Table 9.1 Means (*M*) and standard deviations (*sd*) for pre-test and post-test measures by group in study 1

Measures	Control group		Morphological group		CG	MG	
	Pre	Post	Pre	Post	*t*-test[a] (pre-test vs post-test)		Cohen's d (post-test)
	M (*sd*)	*M* (*sd*)	*M* (*sd*)	*M* (*sd*)			
Non-verbal ability[b]	12.92 (4.84)		14.08 (3.21)		–	–	–
EL tasks							
Phonological awareness	3.41 (2.34)	3.88 (2.59)	4.62 (2.46)	5.37 (2.74)	.95	1.85	.56
Letter knowledge	3.94 (6.94)	3.41 (5.17)	5.33 (5.90)	5.66 (5.99)	.39	.80	.40
Word reading	.64 (2.42)	1.00 (2.64)	.45 (2.04)	1.04 (2.66)	1.37	1.51	.02
MA tasks							
Production of inflected forms	1.01 (1.27)	1.17 (1.42)	2.33 (1.90)	4.12 (2.13)	.82	3.84**	1.70***
Production of derived forms	1.94 (1.59)	2.17 (1.91)	3.08 (1.63)	4.08 (1.97)	.62	3.54**	.99**
Formation of compounds	1.47 (2.15)	2.58 (2.73)	2.50 (2.50)	5.04 (2.85)	1.88	5.36***	.89**
Analysis of compound words	1.17 (1.94)	.94 (2.01)	1.29 (1.75)	2.45 (2.90)	.84	3.00**	.59
Word analogy	1.88 (2.31)	2.52 (3.26)	2.29 (3.01)	4.70 (3.79)	1.05	3.53**	.61

Notes: EL early literacy, *MA* morphological awareness, *CG* control group, *MG* morphological group

[a]df = 39; [b]raw scores

* p < .05; ** p < .01; *** p < .001

controlling for the pre-test measure of this task, $F(1, 38) = 15.39$, $p < .001$, $\eta^2 = .29$, while the group effect for the production of derived forms task only remained marginally significant, $F(1, 38) = 8.37$, $p = .053$, $\eta^2 = .10$. However, it is notable that the effect sizes for the post-test significant differences between the two groups were large. Moreover, the intervention effects on the production of inflected and derived forms tasks were confirmed from the pre-test and post-test comparison in the two groups; the treatment group showed significant improvement from the pre-test to the post-test assessment, while the control group did not show any improvement.

Table 9.1 also shows that the treatment group performed better on all the morphological awareness tasks assessed after the intervention (post-tests) than before the beginning of the intervention (pre-tests), while the control group did not show differences between the pre-test and the post-test assessment on any of the morpho-

logical awareness tasks. No significant differences between the pre-test and the post-test assessment were found for both groups on any of the early literacy tasks.

To summarize, according to the findings of study 1 the instruction of morphological awareness in kindergarten showed large effects on specific facets of morphological awareness development, while no effects presented for the growth of early literacy skills. In line with previous studies (Apel & Diehm, 2014; Casalis & Cole, 2009) significant instruction effects on awareness of inflectional and derivational morphemes were found and extended the non-significant effects on literacy skills. However, the present results differ from those who showed a significant effect of morphological awareness training on phonological awareness (Casalis & Cole, 2009; Lyster, 2002) and a significant association between morphological and phonological awareness. In the present study there was neither a difference between the treatment and the control group on the post-hoc assessment of the phonological awareness task, nor a significant gain in phonological awareness for the treatment group. Also, in line with Ramirez et al. (2014) findings showed that the instruction of morphological awareness in the whole class improved children's awareness of compounds significantly. Also there is a conflict in the findings which showed a significant gain in the analysis of compounds but no significant differences between the two groups on the post-test assessment. Given that the effect size (d = .59) is considered medium, the non-significant difference may be attribute to the small size of our sample. In study 2, this pattern of findings was examined further with a larger sample.

Study 2

Study 2 (Manolitsis & Kandylidou, 2011) was a quasi-experimental study with a pre-test / post-test design, two treatment groups and a control group. Study 2 focused primarily on a broader examination of the effects of morphological awareness instruction on early literacy skills than Study 1, and secondly focused on the further examination of the interaction between morphological and phonological awareness. The children included in the two treatment groups received instruction in their classes for 4 weeks by a trained teacher.

Method

Participants

Eighty-eight Greek-speaking children (age range = 53–77 months) from eight kindergarten classes from five public kindergartens in Crete, Greece, were selected to participate in study 2. Twenty-nine were in the blended instruction group (15 boys

and 14 girls; mean age = 66.79 months, *SD* = 5.49); 29 in the morphology instruction group (12 boys and 17 girls; mean age = 66.68 months, *SD* = 5.74); and 30 in the control group (14 boys and 16 girls; mean age = 65.80 months, *SD* = 5.49). Participants were allocated in the groups based on their class membership. The blended instruction group consisted of three classes, the morphology instruction group consisted of two classes, and the control group consisted of three classes. Each class ranged from 15 to 20 children aged from 4 to 6 years. All the participant children were native speakers of Greek, and were Caucasian, with no documented intellectual, sensory or behavioural difficulties and their parents gave written consent for them to participate in the study.

Pre-test and Post-test Measures

Participants *non-verbal cognitive ability*, *letter knowledge* and *word reading* assessed with similar tasks as those described in Study 1.

Phonological Awareness Three measures of phonological awareness were administered: (a) The *Initial Sound Identification* task, as it is described in Study 1. (b) The *Elision* task adapted into Greek (see Manolitsis, Georgiou, Stephenson, & Parrila, 2009) from the CTOPP (Wagner, Torgesen, & Rashotte, 1999) and consisted of three practice items and 29 test items. Children were asked to repeat a word without saying a designated sound part of this word. (c) The *Blending* task was also based on the CTOPP (Wagner et al., 1999), adapted into Greek (see Manolitsis et al., 2009) and consisted of three practice items and 23 test items. Children were asked to listen to a series of separate sounds carefully, and then put the separate sounds together to make a whole word.

Print Knowledge A Greek version (Tafa, 2005) of the Concepts About Print (C.A.P.) (Clay, 2000) observation task was used to assess children's knowledge of how print works. The maximum score for this test is 24.

Vocabulary The Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981), which was adapted into Greek (see Simos, Sideridis, Protopapas, & Mouzaki, 2011), was used as a measure of receptive vocabulary. A participant's score was the number of correct items (max = 173).

Morphological Awareness Tasks

Four tasks, adapted into Greek, were given orally to participants. All of the following tasks were presented in a similar game-like context as described in Study 1. The participant's score in all tasks was based on the number of correct items.

Production of Inflected Forms In this task participants were provided with a target word embedded in a sentence (e.g., I draw a "line") and asked to produce the correct inflected form of the target word that complete a second sentence (e.g., we draw many … (lines). The task consisted of 13 items and it was preceded by four practice items.

Production of Derived Forms Children's awareness of derived morphemes was assessed with a task that was based on the derivational morphology task of Levin et al. (1999). Children had to provide the appropriate derived form of a target word embedded in a sentence (e.g. how we call one who is made of wood? …."wooden"). The task consisted of 15 items and it was preceded by practice items for each type of the examined derived forms (verb, adjective, noun, diminutives, and augmentatives).

Formation of Compounds This 10-items task was similar with the respective task described in study 1. However, in this task the participant's score was based on two conditions for the correct formation of the compound. The participant got two points for each item in which the compound word created correctly and assigned with a proper stress; one point was given if the stress was put erroneously, but the compound word have been created morphologically correctly. The maximum score was 20.

Analysis of Compound Words Children were asked to pronounce separately the two word parts of a compound word, as it is described in Study 1. The task consisted of 6 items and it was preceded by two practice items. The participant got two points for each item when both word bases of the compound were provided, while he/she got one point when only one word base was provided. The maximum score was 12.

Procedure

All participants were tested individually in three sessions of 20 min by a graduate student who received training on administering the tasks. Literacy and morphological tasks were administered 1 month before the beginning of the intervention and 1 month after the intervention ended.

The two treatment groups received, as in Study 1, an intervention scheme which was embedded in the ongoing kindergarten curriculum. The intervention was not implemented by the teacher of the class, but by a trained graduate student in early literacy and certified as a kindergarten teacher. The interventionist's training was provided by the author. Although during the training sessions all the students of the class participated in the intervention activities, only the participants of Study 2 were assessed in the pre-test and post-test sessions. The intervention program was implemented in March. There were 11 teaching sessions for each treatment group who received two or three sessions per week. Each session lasted approximately

30–40 min with a specific learning goal and a focused oral activity. Similarly, as described in Study 1, in order to determine treatment fidelity, the author (as the principal investigator) visited the intervention classrooms regularly and inspected if the intervention was provided according to the guidelines of each treatment scheme. Debriefing sessions with the interventionist followed each visit.

The instructional design for both treatment groups was not focused on specific morphemes or phonemes, but it was focused on a broader teaching of morphological or phonological relationships between words. For example, children involved ether in activities of morphological problem solving skills, such as finding families of words, or generating diminutives and augmentatives and then matching them (e.g., "γατάκι", /γataki/, 'kitten' matched with "γάταρος", /γataros/, 'big cat'), or in phonological activities of matching sounds of words and manipulating words' phonological segments, such as pronouncing rhythmically and by clapping each syllable of a five-syllable compound word (e.g., "τριαντάφυλλο", /tri-a-da-fy-lo" 'rose'). Both intervention schemes followed common learning goals for the enhancement of morphological awareness. The blended group intervention scheme received an instruction that combined the morphological with the phonological qualities of words in each teaching session. The implementation of each session across treatment groups lasted an equal amount of time. Thus, the morphological group was involved in more activities than the blended group for the attainment of each morphological learning goal, but the blended group shared their time in each session in order to be involved in both morphological and phonological activities.

The instructional design for the morphology group included activities of a similar teaching pattern and objectives as those described in study 1 and activities that were inspired by previous related training studies (e.g., Casalis & Cole, 2009; Lyster, 2002). The instructional design of the blended group included activities with a primary goal of promoting an aspect of children's morphological awareness (similar to the goal of the respective activity implemented by the morphology group) and secondary goal to focus children's attention on the phonological qualities of words as well. Approximately 60 % of the teaching time was devoted to morphology and the rest to phonological training. For example, the instruction included activities such as finding the phonologically longer word between a base word and derivative form of this word (e.g., "ευτυχία", /eftixia/, 'happiness' with "ευτυχισμένος", /eftixismenos/, 'happy'). In other activities, children learned to blend separate sounds in a verb (e.g., /s-i-d-e-r-o-n-o/, 'iron' and then they were asked, in the context of a theatrical play with finger-puppets, to manipulate this target word in order to complete sentences with the appropriate inflected form changing the tense and the person of the verb (e.g,. Teacher asked: *What is Fifi doing now*? Children answered: *He is 'ironing', /sideroni/.* Teacher asked: *Let's do it altogether; what are we doing?* Children answered: *We are 'ironing', /sideronoume/*). In another activity, a group of children were involved in collecting pictures depicting objects in a singular form (e.g., one boat) and putting them into a box and another group collected pictures with objects in a plural form (e.g., three boats). Then, each group was motivated to make funny poems with rhymes based on the collected pictures in their box. Thus, one group made poems which included words in a singular form and the

other group made poems with words in a plural form (e.g., a 'boat' with a 'rope' sails in a 'lake' of 'cake'). Finally, each group of children had to repeat the same poem changing the number of the objects (e.g., two 'boats' with 'ropes' sail in 'lakes' of 'cakes'). During the intervention sessions in both treatment groups no written words and letters were used.

The control group, as in Study 1, received the typical mainstream instruction according to the national Greek preschool curriculum. Although the two studies described in the present chapter were done 4 years apart, no changes has been made to the Greek kindergarten curriculum since 2003 (Tafa, 2008). Also, Greek teachers do not implement and do not value morphological awareness teaching in kindergarten, according to recent findings (Stellakis, 2012).

Results and Discussion

Mean scores, standard deviations and analyses of variances for all pre-test and post-test measures by group are presented in Table 9.2. According to the separate ANOVAs with Bonferroni adjustment that were performed on the pre-test measures no significant differences were found among the three groups. Therefore, according to the pre-test findings all three groups began from the same baseline in respect to cognitive ability, early literacy skills, phonological and morphological awareness.

The ANOVAs for the post-test measures examined whether the three groups differed after the intervention period. These results showed clearly a large effect of both intervention schemes on the growth of morphological awareness. As Table 9.2 shows, the control group performed more poorly than the morphology and the blended instruction group on all the morphological awareness tasks measured following the intervention. Also, it shows that both intervention schemes presented similar positive effects on the growth of all morphological awareness abilities. However, the instruction effects on phonological awareness were not the same for the two treatment groups. Although there was a significant effect on two phonological tasks, this effect was specific. The same specific pattern of results were found for the elision task, when an ANCOVA was performed with the pre-test measure of elision as covariate, $F(2, 84) = 69.24$, $p < .001$, $\eta^2 = .29$. According to the Bonferroni post-hoc comparisons, the treatment group with blended instruction performed better on the phonological tasks than the control group and the group which received only morphological instruction. Moreover, no significant differences were found on the phonological awareness tasks between the morphology group and the control group. Finally, no significant differences between the three groups were found on the post-tests of the early literacy tasks.

Although the three groups began from an equal baseline, a further examination was undertaken for effects of the intervention schemes on morphological and phonological awareness. For this reason, the gains of the three groups on the composite scores of morphological and phonological awareness tasks were analyzed. The composite score of morphological awareness consisted of the sum of the four sepa-

Table 9.2 Means (*M*) and standard deviations (*sd*) for pre-test and post-test measures by group in study 2

Measures	Control group		Morphological group		Blended group		ANOVA[a] (post-hoc comparisons)		Partial η^2 (post-test)
	Pre	Post	Pre	Post	Pre	Post	*F*	*F*	
	M (*sd*)	*M* (*sd*)	*M* (*sd*)	*M* (*sd*)	*M* (*sd*)	*M* (*sd*)	(pre-test)	(post-test)	
Non-verbal ability[b]	15.6 (2.51)		13.85 (3.39)		14.13 (2.77)		3.04	–	
Early Literacy									
Letter knowledge	2.37 (1.99)	3.63 (2.31)	1.86 (2.37)	3.65 (3.39)	1.45 (2.06)	4.34 (6.11)	1.36	.27	.01
Word reading	0	0	.07 (.37)	.07 (.37)	0	.28 (.75)	1.03	2.61	.06
Print knowledge	7.96 (3.01)	8.17 (2.92)	8.17 (3.38)	9.41 (3.92)	6.93 (3.01)	8.03 (3.33)	1.31	1.45	.03
Vocabulary	45.73 (5.72)	59.90 (13.41)	42.17 (10.46)	51.90 (19.41)	44.21 (8.02)	55.21 (14.65)	1.37	1.87	.04
Phonological Awareness									
Initial sound identification	4.93 (2.58)	5.20 (2.47)	4.10 (2.85)	4.34 (2.38)	4.03 (2.77)	6.76 (2.23)	.99	7.78*** (b>c, b>m)	.16
Elision	2.00 (3.07)	2.57 (2.75)	3.07 (3.88)	3.79 (3.67)	1.03 (1.29)	4.55 (3.49)	3.45	2.69	.06
Blending	2.47 (2.12)	2.73 (1.98)	3.24 (3.16)	4.04 (2.68)	2.31 (1.17)	5.55 (2.67)	1.37	9.70*** (b>c)	.19
Morphological Awareness									
Production of inflected forms	6.53 (2.50)	7.20 (2.73)	5.48 (2.84)	10.27 (2.21)	5.93 (2.40)	9.16 (2.54)	1.22	11.12*** (b>c, m>c)	.21
Production of derived forms	5.16 (2.42)	6.03 (2.26)	4.52 (2.28)	9.79 (3.03)	4.17 (2.74)	11.21 (3.12)	1.22	26.45*** (b>c, m>c)	.39
Formation of compounds	1.33 (1.64)	2.90 (1.49)	2.13 (2.34)	7.24 (2.67)	2.79 (4.54)	7.24 (2.67)	1.65	24.90*** (b>c, m>c)	.37
Analysis of compound words	.76 (1.07)	1.37 (1.16)	1.17 (1.33)	3.38 (1.24)	.79 (.98)	3.93 (1.31)	1.16	35.39*** (b>c, m>c)	.45

Notes: c = control group; m = morphological group; b = blended group
[a]df = 2, 85; [b]raw scores
* p < .05; ** p < .01; *** p < .001

rate morphological awareness measures. Similarly, the composite score of phonological awareness was the sum of the three phonological measures. Figures 9.1 and 9.2 present the growth between the pre-test and the post-test scores of the composite measures of morphological and phonological awareness respectively. According to the ANOVA results the treatment groups achieved higher score gains than the control group, $F\ (2, 85) = 67.6$, $p < .001$, $\eta^2 = .61$. However, the phonological awareness gains were higher only for the blended group compared with the score gains of the morphology group and the control group, $F(2, 85) = 51.5$, $p < .001$, $\eta^2 = .55$. It is notable that the effect sizes for the significant differences between the three groups on the composite score gains were quite large.

To summarize, the effects of teaching manipulation of morphemes and helping young children to acquire an insight into the morphemic structure of the words seems certainly effective for the growth of morphological awareness per se. These findings are in line with previous studies (Apel & Diehm, 2014; Casalis & Cole, 2009; Lyster, 2002; Ramirez et al., 2014). They also showed that instruction in morphological awareness is equally effective when morphological skills are taught as an isolated objective in a class or are taught interactively with other linguistic awareness skills.

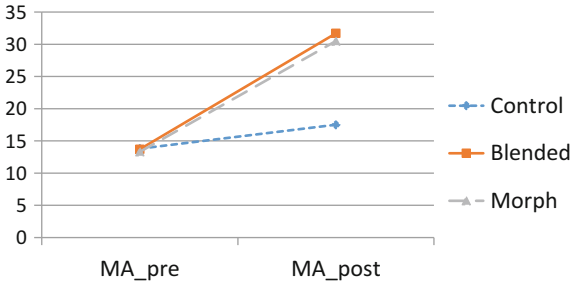

Fig. 9.1 Mean scores of morphological awareness (MA) pre-test and post-test composite scores by group

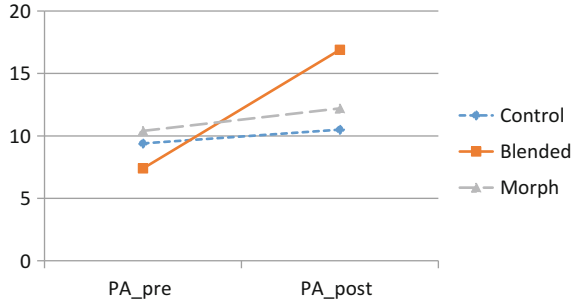

Fig. 9.2 Mean scores of phonological awareness (PA) pre-test and post-test composite scores by group

In Study 2, the interactions between morphological awareness training and phonological awareness growth, which have been found in previous studies (Casalis & Cole, 2009; Lyster, 2002), were explained only in terms of the combined instruction of these domains. The sole training in morphological awareness in kindergarten did not show transfer effects on phonological awareness growth and on early literacy skills. Based on the present findings, I assume that Lyster's study's (2002) effects of morphological training on phonological awareness and literacy skills were the result of the instruction type which was combined with print exposure. Given that letter knowledge is strongly associated with phonological awareness development in kindergarten (Evans, Bell, Shaw, Moretti, & Page, 2006), it is possible that the exposure to written words and letters in kindergarten may have foster children's phonological awareness as well as print knowledge skills. This assumption is supported also by studies which implemented morphological awareness training with no written activities, and showed negligible effects on phonological tasks (Casalis & Cole, 2009) and null effects on letter knowledge and literacy tasks in grade 1 (Apel & Diehm, 2014; Casalis & Cole, 2009).

In conjunction with the assumption of the specific effects of morphological awareness training were the null effects of the Study 2 intervention schemes on vocabulary skills. These findings are in contrast with previous studies which implemented interventions of teaching morphological awareness combined with vocabulary training in kindergarten (Ramirez et al., 2014) and in later primary school grades (Bowers & Kirby, 2010). As I suggested, it seems that morphological awareness training in the early years could contribute effectively in other areas of literacy development if these areas are included in the intervention scheme. The present findings are in favor of an integrated instruction of morphological awareness with other aspects of literacy, since the effects of the blended instruction scheme contributed to both morphological and phonological awareness.

General Discussion

This chapter examined the effectiveness of teaching morphological awareness in the early years, before young children learn systematically how to read and write. For this reason two quasi-experimental studies were reported which explored whether morphological instruction in a language with a very rich morphological structure, could foster morphological awareness growth and broader early literacy skills. In both studies morphological awareness was taught with exclusively oral activities in order to control for spurious effects that could be attributed to print exposure.

How Effective Is the Early Instruction in Morphological Awareness?

The first study focused on the effects of morphological instruction compared with the growth of children experiencing the typical literacy curriculum. According to the findings of Study 1 the instruction of morphological awareness enhances a number of morphological awareness abilities, but the effects did not disperse to other facets of early literacy. The second study examined whether a combination of morphological instruction in conjunction with other important linguistic awareness abilities could foster early literacy skills. The second study's results verified the valuable contribution of teaching morphemes even in kindergarten to the growth of morphological awareness and highlighted the need for a joint teaching of morphological and phonological awareness. Given that the blended instruction program fostered both these important metalinguistic domains for the literacy development, it is suggested that this pattern of instruction may save time for other crucial skills to be trained. Although it would have been useful if Study 2 had also included a group of children who only received phonological awareness training, the effects of the blended group on both phonological and morphological awareness growth indicated that it is a more efficient intervention scheme than the isolated training of morphemes in the kindergarten class.

One of the key findings in both studies was that morphological awareness training had very specific effects, as it has been suggested earlier by Casalis and Cole (2009). The present findings extended this suggestion, because it was shown that the specific instruction effects on morphological awareness remained even if the instruction was combined with phonological awareness. Although the findings of correlational studies have shown that morphological awareness correlated significantly with phonological awareness (e.g., Carlisle, 1995; Casalis & Louis-Alexandre, 2000; Deacon & Kirby, 2004), the present findings as well as findings from Casalis and Cole (2009) intervention study indicate that these two metalinguistic abilities are different, at least in the initial stages of their development. In other words, it is shown in both studies presented here that a single training of children in manipulating morphemes in early years did not lead to a better manipulation of phonemes too. Nevertheless, the large effects of teaching jointly morphological and phonological awareness in Study 2 may be due to a common deep structure (see Nunes & Hatano, 2004) that these two metalinguistic abilities share. Besides the inter-correlations between morphological and phonological awareness are indicators of such a common deep structure.

In the present study no significant effects of instruction on vocabulary growth were found, because vocabulary enrichment was not included in the intervention aimed at morphological awareness. This pattern of findings are in contrast with those who reported significant correlations between vocabulary and morphological awareness in early years (McBride-Chang et al., 2005). This is another reason to argue that morphological awareness contributes only to those literacy skills that the intervention is focused on, irrespectively of the common elements that morphology

shares with other language domains. Generally, it seems that morphological awareness could be taught efficiently in kindergarten and it could be integrated with other literacy areas such as phonological awareness and vocabulary in order to gain broader effects from the teaching of morphemes on literacy learning.

Some limitations of the present study should be mentioned. First, the duration of the intervention program in both studies was rather short and the sample size was small. A longer duration of the intervention period with more participants in each group would have given the opportunity to examine stricter whether the effects of morphological awareness training were really negligible on early literacy skills. Second, it has to be mentioned that in both studies reported in the present chapter the teachers who implemented the intervention were appropriately trained. Therefore the generalization of our experimental findings to the 'real' educational practice has to be considered with caution.

Educational Implications and Future Research

Based on the findings of the two studies reported here, it is suggested that teaching awareness of morphemes in kindergarten is beneficial for the growth of several morphological awareness abilities. Accordingly, given the strong research evidence for the importance of early morphological awareness on later literacy tasks such as spelling and reading comprehension (see e.g., Deacon & Bryant, 2006, Kirby et al., 2012; Tong, Deacon, Kirby, Cain, & Parrila, 2011), the teaching of morpheme awareness seems a worthwhile challenge and not "a mistake" as Adams (1990) suggested. Carlisle and Stone (2005) has already shown that even grade 2 students were reading faster words with two morphemes (e.g., shady) than single morpheme words (e.g., lady). Although the present findings did not support a broader effect on early literacy skills, it should not be overlooked the potential value of early morphological awareness instruction on later literacy tasks demanding on morphological processing such as spelling and reading derived or compound words. Therefore, further examination of the long-term effects of early teaching of morphemes on later literacy development and on morphologically demanding literacy tasks is required.

For these reasons the teaching of morphological awareness should be incorporated in contemporary early childhood literacy curricula. This clear educational suggestion is derived from the growing body of research evidence which has shown that this specific metalinguistic ability can be taught effectively using appropriate pedagogy and can be combined efficiently with a variety of other important early precursors of literacy learning. In the next years, further experimental findings will be required, because it is not sufficient to provide educational implications based only on correlational studies, given the different findings emerged from intervention studies on teaching morphemes, such as those reported in this chapter.

References

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT.

Apel, K., & Diehm, E. (2014). Morphological awareness intervention with kindergarteners and first and second grade students from low SES homes: A small efficacy study. *Journal of Learning Disabilities, 47*, 65–75.

Berninger, V. W., Abbott, R. D., Nagy, W., & Carlisle, J. (2010). Growth in phonological, orthographic and morphological awareness in grades 1 to 6. *Journal of Psycholinguistic Research, 39*, 141–163.

Bowers, P. N., & Kirby, J. R. (2010). Effects of morphological instruction on vocabulary acquisition. *Reading and Writing, 23*, 515–537.

Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of Educational Research, 80*, 144–179.

Carlisle, J. F. (1995). Morphological awareness and early reading achievement. In L. B. Feldman (Ed.), *Morphological aspects of language processing* (pp. 189–209). Hillsdale, NJ: Lawrence Erlbaum.

Carlisle, J. F. (2000). Awareness of the structure and meaning of morphologically complex words: Impact on reading. *Reading and Writing: An Interdisciplinary Journal, 12*, 169–190.

Carlisle, J. F. (2003). Morphology matters in learning to read: A commentary. *Reading Psychology, 24*, 291–322.

Carlisle, J. F. (2010). Effects of instruction in morphological awareness on literacy achievement: An integrated review. *Reading Research Quarterly, 45*, 464–487.

Carlisle, J. F., & Nomanbhoy, D. M. (1993). Phonological and morphological awareness in first graders. *Applied Psycholinguistics, 14*, 177–195.

Carlisle, J. F., & Stone, C. A. (2005). Exploring the role of morphemes in word reading. *Reading Research Quarterly, 40*, 428–449.

Casalis, S., & Cole, P. (2009). On the relationship between morphological and phonological awareness: Effects of training in kindergarten and in first-grade reading. *First Language, 29*, 113–142.

Casalis, S., & Louis-Alexandre, M. F. (2000). Morphological analysis, phonological analysis and learning to read French: A longitudinal study. *Reading and Writing, 12*, 303–335.

Clay, M. M. (2000). *Concepts about print*. Auckland: Heinemann.

Cross Thematic Curriculum Framework for Kindergarten. (2003). *Ministerial Decision G2/21072 Government Gazette*. p. 304.

Deacon, S. H., & Bryant, P. (2006). This turnip's not for turning: Children's morphological awareness and their use of root morphemes in spelling. *British Journal of Developmental Psychology, 24*, 567–575.

Deacon, S. H., & Kirby, J. R. (2004). Morphological awareness: Just "more phonological"? The roles of morphological and phonological awareness in reading development. *Applied Psycholinguistics, 25*, 223–238.

Dunn, L. M., & Dunn, L. M. (1981). *Peabody picture vocabulary test-revised*. Circle Pines, MN: American Guidance Service.

Evans, M. A., Bell, M., Shaw, D., Moretti, S., & Page, J. (2006). Letter names, letter sounds and phonological awareness: An examination of kindergarten children across letters and of letters across children. *Reading and Writing, 19*, 959–989.

Gombert, J. E. (1992). *Metalinguistic development*. (T. Pownall, Trans.). London: Harvester Wheatsheaf. (Original work published 1990).

Goodwin, A. P., & Ahn, S. (2013). A meta-analysis of morphological interventions in English: Effects on literacy outcomes for school-age children. *Scientific Studies of Reading, 17*, 257–285.

Grigorakis, I. (2014). *The development of children's metamorphological abilities from kindergarten to grade 2 and its relationship with reading and spelling acquisition.* Unpublished doctoral dissertation. Rethymno, Greece: University of Crete.

Kirby, J. R., Parrila, R. K., & Pfeiffer, S. L. (2003). Naming speed and phonological awareness as predictors of reading development. *Journal of Educational Psychology, 95*, 453–464.

Kirby, L. R., Deacon, S. H., Bowers, P. N., Izenberg, L., Wade-Woolley, L., & Parrila, R. (2012). Children's morphological awareness and reading ability. *Reading and Writing: An Interdisciplinary Journal, 25*, 389–410.

Kirk, C., & Gillon, G. (2007). Longitudinal effects of phonological awareness intervention on morphological awareness in children with speech impairment. *Language, Speech, and Hearing Services in Schools, 38*, 342–352.

Kirk, C., & Gillon, G. T. (2009). Integrated morphological awareness intervention as a tool for improving literacy. *Language, Speech, and Hearing Services in Schools, 40*, 341–351.

Landerl, K., & Wimmer, H. (2008). Development of word reading fluency and spelling in a consistent orthography: An 8-year follow-up. *Journal of Educational Psychology, 100*, 150–161.

Levin, I., Ravid, D., & Rapaport, S. (1999). Developing morphological awareness and learning to write: A two-way street. In T. Nunes (Ed.), *Learning to read: An integrated view from research and practice* (pp. 77–104). Amsterdam, Netherlands: Kluwer.

Lyster, S. A. H. (2002). The effects of morphological versus phonological awareness training in kindergarten on reading development. *Reading and Writing, 15*, 261–294.

Mahony, D., Singson, M., & Mann, V. (2000). Reading ability and sensitivity to morphological relations. *Reading and Writing: An Interdisciplinary Journal, 12*, 191–218.

Manolitsis, G. (2000). *Μέτρηση και αξιολόγηση μεταγλωσσικών ικανοτήτων παιδιών ηλικίας 5–6 ετών* [Measurement and evaluation of 5–6 years old children's metalinguistic abilities]. Athens, Greece: Grigoris.

Manolitsis, G. (2006). Η σχέση της μορφολογικής επίγνωσης με την αναγνωστική ικανότητα κατά τα πρώτα στάδια ανάπτυξής της. [The relation of morphological awareness with early reading ability]. In D. Koutsogianis, A. Haralabopoulos, & N. Liosis (Eds.), *Studies in Greek linguistics.* Proceedings of the 26th annual meeting of the Department of Linguistics. Faculty of Philosophy (pp. 282–293). Thessaloniki: Aristotle University of Thessaloniki.

Manolitsis, G., Georgiou, G., Stephenson, K., & Parrila, R. (2009). Beginning to read across languages varying in orthographic consistency: Comparing the effects of non-cognitive and cognitive predictors. *Learning and Instruction, 19*, 466–480.

Manolitsis, G., & Kandylidou, E. (2011, August). *Morphological awareness instruction in Kindergarten and children's early literacy development*. Paper presented at the 17th European conference on reading. Mons, Belgium.

McBride-Chang, C., Wagner, R. K., Muse, A., Chow, B. W. Y., & Shu, H. (2005). The role of morphological awareness in children's vocabulary acquisition in English. *Applied Psycholinguistics, 26*, 415–435.

Nunes, T., Aidinis, A., & Bryant, P. (2006). The acquisition of written morphology in Greek. In R. Malatesha Joshi & P. G. Aaron (Eds.), *Handbook of orthography and literacy* (pp. 201–219). Mahwah, NJ: Lawrence Erlbaum.

Nunes, T., Bryant, P., & Bindman, M. (1997). Morphological spelling strategies: Developmental stages and processes. *Developmental Psychology, 33*, 637–649.

Nunes, T., Bryant, P., & Bindman, M. (2006). The effects of learning to spell on children's awareness of morphology. *Reading and Writing: An Interdisciplinary Journal, 19*, 767–787.

Nunes, T., Bryant, P., & Olsson, J. (2003). Learning morphological and phonological spelling rules: An intervention study. *Scientific Studies of Reading, 7*, 289–307.

Nunes, T., & Hatano, G. (2004). Morphology, reading and spelling: Looking across languages. In T. Nunes & P. Bryant (Eds.), *Handbook of children's literacy* (pp. 651–672). Dordrecht, The Netherlands: Springer.

Papadopoulos, T. C. (2013). PASS theory of intelligence in Greek: A review. *Preschool and Primary Education, 1*, 41–66.

Papadopoulos, T. C., Georgiou, G. K., & Kendeou, P. (2009). Investigating the double-deficit hypothesis in Greek: Findings from a longitudinal study. *Journal of Learning Disabilities, 42*, 528–547.

Pittas, E., & Nunes, T. (2014). The relation between morphological awareness and reading and spelling in Greek: A longitudinal study. *Reading and Writing: An Interdisciplinary Journal.* doi 10.1007/s11145-014-9503-6.

Protopapas, A. (in press). Learning to read Greek. In T. W. Verhoeven, & C. A. Perfetti (Eds.), *Reading acquisition across languages and writing systems: An international handbook*. Cambridge, UK: Cambridge University Press.

Ralli, A. (2003). Morphology in Greek linguistics: The state of the art. *Journal of Greek Linguistics, 4*, 77–129.

Ralli, A. (2005). *Μορφολογία [Morphology]*. Athens, Greece: Patakis.

Ramirez, G., Walton, P., & Roberts, W. (2014). Morphological awareness and vocabulary development among kindergarteners with different ability levels. *Journal of Learning Disabilities, 47*, 54–64.

Raven, J. C. (1956). *Coloured progressive matrices, sets A, AB, B*. London: H. K. Lewis & Co. Ltd.

Rothou, K. M., & Padeliadu, S. (2014). Inflectional morphological awareness and word reading and reading comprehension in Greek. *Applied psycholinguistics*, doi:10.1017/S0142716414000022.

Rubin, H. (1988). Morphological knowledge and early writing ability. *Language and Speech, 31*, 337–355.

Simos, P., Sideridis, G. D., Protopapas, A., & Mouzaki, A. (2011). Psychometric characteristics of a receptive vocabulary test for Greek elementary students. *Assessment for Effective Intervention, 37*, 34–50.

Stavrakaki, Z., & Manolitsis, G. (2007, October). *Morphological awareness training in preschool children*. Paper presented at the conference "Emergent Literacy: Research and Applications", Rethymno, Greece.

Stellakis, N. (2012). Greek kindergarten teachers' beliefs and practices in early literacy. *Literacy, 46*, 67–72.

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology, 38*, 934–947.

Tafa, E. (2004). Literacy activities in half-and whole-day Greek kindergarten classrooms. *Journal of Early Childhood Research, 2*, 85–102.

Tafa, E. (2005). Greek kindergarteners' concepts about print. In M. Pandis, A. Ward, & S. R. Mathews (Eds.), *Reading, writing, thinking* (pp. 88–95). Newark, DE: International Reading Association.

Tafa, E. (2008). Kindergarten reading and writing curricula in the European Union. *Literacy, 42*, 162–170.

Tong, X., Deacon, S. H., Kirby, J. R., Cain, K., & Parrila, R. (2011). Morphological awareness: A key to understanding poor reading comprehension in English. *Journal of Educational Psychology, 103*, 523–534.

Tsakris, P. (1970). *Η ευφυία των ελληνοπαίδων της σχολικής ηλικίας (5 έως 12 ετών)* [The intelligence of Greek children at school age (5 to 12 years old). Athens.

Tsesmeli, S. N., & Seymour, P. H. (2006). Derivational morphology and spelling in dyslexia. *Reading and Writing, 19*, 587–625.

Wagner, R. K., Torgesen, J. K., & Rashotte, C. A. (1999). *Comprehensive test of phonological processing*. Austin, TX: PRO-ED.

Wolter, J., Wood, A., & D'zatko, K. W. (2009). The influence of morphological awareness on the literacy development of first –grade children. *Language, Speech, and Hearing in schools, 40*, 286–298.

Chapter 10
Early Reading First as a Model for Improving Preschool Literacy Instruction and Outcomes

Barbara D. DeBaryshe and Kathleen Tran Gauci

Abstract The Early Reading First program (ERF) was sponsored by the U.S. Department of Education to develop model 'preschool centers of excellence' that enhance the early language and literacy skills of low-income preschool children. In this chapter we report on the outcomes of an ERF project conducted with Head Start classrooms in Hawai'i. The intervention included intensive professional development on research-based curriculum and instruction, teacher-child interaction, family engagement, and child progress monitoring. Outcomes included large gains on intentional literacy instruction, classroom quality, and family engagement, and moderate to large gains on child emergent literacy skills. The intervention had little effect on oral language outcomes. Despite the academic focus, most teachers were highly satisfied with the experience, reporting increased child motivation and considerable professional growth.

Early Literacy Instruction: Background and Issues

Early Literacy

Emergent or early literacy is a multidimensional construct that encompasses the set of knowledge, skills, and attitudes that are the precursors of conventional reading and writing. Components of early literacy include:

- *Oral language* skills such as receptive and expressive vocabulary, syntax, morphology, and pragmatics.

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- *Phonological and phonemic awareness* or the ability to detect and manipulate sound units within spoken words. This includes sensitivity to word boundaries, syllables, rhyme, and individual phonemes.
- *Concepts of print* such as awareness of letters as a special group of symbols, knowing that print contains a message that can understood by others, and familiarity with conventions like print directionality.
- *Alphabet knowledge* including awareness of letter symbols, names, and sounds.
- *Emergent writing* which includes the progression of written forms of increasing conventionality (e.g., scribble to letter-like shapes to recognizable letters) and initial attempts at phonetic spelling.
- *Interest and motivation* relating to text-based activities (International Reading Association and the National Association for the Education of Young Children, 1998; National Early Literacy Panel, 2008; Whitehurst & Longian, 2001).

Early Literacy Curricula

A number of preschool curricula, both commercially available and unpublished have been developed with the aim of enhancing early literacy outcomes. Some of these are stand-alone, comprehensive curricula that include a strong emphasis on literacy. Others focus more narrowly on literacy content and are intended to be used as a supplement to a broadly-based developmental curriculum. While it seems logical that using a literacy-focused curriculum would promote such outcomes for children, there is surprisingly little evidence to support this expectation.

The Preschool Curriculum Evaluation Research initiative (PCER) was a multisite, randomized control trial conducted in the U.S. (Preschool Curriculum Evaluation Research Consortium, 2008). This project involved 14 curricula, 315 classrooms, and over 2900 children. Both comprehensive and literacy-specific curricula were included. Results suggested that using a literacy-focused curriculum was usually associated with corresponding changes in instructional content. For six of the nine literacy curricula, the frequency and quality of observed literacy instruction was superior to the control condition; the same pattern was found for only two of the five trials using comprehensive curricula. However, only one literacy-focused curriculum (and no comprehensive curriculum) showed significant benefits for children's literacy growth. The PCER evaluation suggest that simply providing teachers with a documented curriculum and a modest amount of workshop-based training on implementation is not sufficient to change child outcomes, at least in within the span of a single school year.

An exception to this trend is the work of Laura Justice and colleagues. Justice found that 2 days of workshop training on the scripted Read it Again! protocol led to successful implementation by teachers and positive effects on child literacy outcomes (Justice et al., 2010; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). Unlike the curricula included in the PCER evaluation, Read It Again! is tightly focused, consisting of 60 short lessons done twice per week during large group book-reading

time. Teachers are given specific books along with target vocabulary words, questions to ask, and teaching materials such as vocabulary picture cards.

The Justice curriculum is unusually narrow in terms of focus and unusually prescriptive in terms of teacher interaction and decision-making. Taken as a whole, the existing research suggests that a literacy-focused curriculum may be a necessary but insufficient step towards the goal of providing literacy-rich instruction that has a demonstrable effect on children's literacy development. The consensus is that attention should focus on ensuring that teachers have a solid knowledge base in early literacy development, a strong instructional skill set, and ongoing support with curriculum implementation (Pianta, Barnett, Burchinal, & Thronburg, 2009). Such supports are addressed in the next section of this chapter.

In-Service Professional Development in Early Literacy

The literature on adult learning and in-service education suggests that teacher professional growth is a complex process. This process unfolds over time and involves the interaction between teachers' pre-existing beliefs, skills and knowledge; the content and format of the training provided; and opportunities for practice, application, and self-reflection (Birman, Desimone, Portyer, & Garet, 2000; Clarke & Hollingsworth, 2002; Joyce & Showers, 1995). Research evidence suggests that professional development (PD) is most effective when (a) training addresses the standards and techniques on which teachers' performance will be evaluated, (b) duration and intensity are commensurate with the complexity of the changes to be implemented, (c) the focus is on classroom application, (d) follow-up support and mentoring is given to teachers as they use the new practices, and (e) efforts are made to create a community of learners with a shared purpose and commitment to organizational change (Fukkink & Lount, 2007; Landry, Anthony, Swank, & Monseque-Bailey, 2009; U. S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy ad Program Studies Service, 2010; Walpole & Meyer, 2008).

Two literacy-focused PD packages that have been tested on a large scale are eCircle and My Teaching Partner (MTP). eCircle consists of a video course delivered in a small group facilitated format twice per month for 2 h. In one study, 262 teachers were randomized to one of five conditions: control and eCircle with or without coaching and with or without the use of PDA technology (Landry et al., 2009). The coaching conditions included 2 h of coaching twice per month. The PDA system was used to track each child's progress and select the next appropriate lessons based on individual assessment data. Collectively, the intervention conditions resulted in more frequent and higher quality literacy instruction, with effect sizes in the range of $d = .41–1.11$. The most intensive intervention condition (eCircle video course plus coaching plus PDA) resulted in the largest changes in classroom practices; this group also showed the most consistent advantages for child gains on oral language, phonological awareness, and print and alphabet knowledge. Based

on these results, a second, scale up study was conducted with 213 Head Start and public preschool teachers (Landry, Swank, Anthony, & Assel, 2011). In this case, all intervention teachers received the intensive PD combination of eCircle, biweekly coaching, and use of the PDA device. After 4 months, intervention sites showed stronger instructional practices than control sites on nine out of ten measures ($d = .40–1.03$), but no difference on child outcomes.

MTP is an on-line program that includes (a) classroom language and literacy activities, (b) descriptions and justifications of ten dimensions of high quality teaching, and (c) a video library to illustrate the target teaching practices. Public preschool teachers ($n = 113$) were randomly assigned to receive either MTP on line resources only or MTP plus biweekly, on-line coaching that included analysis and discussion of videotapes of the teachers' classrooms. After 1 year of intervention, classrooms in the coaching condition showed better instructional quality and children in these classrooms made larger gains on expressive language (Mashburn, Downer, Hamre, Justice, & Pianta, 2010; Pianta, Mashburn, Downer, Hamre, & Justice, 2008). On-line coaching was especially helpful in classrooms that served a high proportion of low-income children. There was also a dose-dependent relationship for teachers in the coaching condition, where greater engagement in the consultation process was associated with better child outcomes. An extension of this work involved 440 teachers assigned to either a control condition or an on-line course using MTP with no coaching component (Hamre et al., 2012). After 14 weeks, teachers who took the course had stronger knowledge of and beliefs about effective literacy instruction; these teachers also evidenced higher quality classroom interactions. Effect sizes ranged from $d = .41–.77$.

As a whole, these studies provide strong evidence that intensive PD can change teachers' knowledge, beliefs, and classroom literacy practices. In addition, intensive PD usually results in better child outcomes. However, little is known about the active ingredients of these often complex interventions, whether there are minimum thresholds for required PD supports or ceilings beyond which additional supports provide no additions benefits, or how PD effectiveness interacts with teacher characteristics. Furthermore, none of these studies provided data on maintenance of improvements once PD supports are withdrawn.

Family Engagement in Early Literacy

Family engagement is an important component of developmentally appropriate early education practices (Copple & Bredekamp, 2009; U.S. Department of Health and Human Services, Families, & Office of Head Start, 2011). Elements of family engagement include home-school communication, classroom participation, and parent involvement in school leadership (Epstein, 1995; Fantuzzo, McWayne, Perry, & Childs, 2004). In the early childhood period, the forms of family involvement most strongly associated with children's early academic skills are those involving

direct parental teaching, stimulation, and modeling in the home (Fantuzzo et al., 2004; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004).

Parents' provision of learning materials, rich stimulation, and informal instruction in the context of everyday home life has a widespread influence on children's language, cognitive, and early academic skills (Bus, Van IJzendoorn, & Pellegrini, 1995; Hart & Risley, 1995; Sénéchal & LeFevre, 2002). Home instruction is more effective when parents receive training and practice with specific teaching strategies and learning materials (Starkey & Klein, 2000; Whitehurst et al., 1988). These training studies demonstrate that parents can have a strong effect on children's readiness kills. In fact, parents have sometimes been found to be more effective change agents than teachers (Lonigan & Whitehurst, 1998; Sénéchal & Young, 2008). This suggests that family engagement is an important component of early literacy interventions.

Early Reading First

Since the implementation of the controversial *No Child Left Behind Act of 2001* (NCLB), the focus of federal education policy in the United States has been to increase overall levels of student achievement (early reading achievement in particular) and reduce longstanding patterns of educational inequities found as a function of socio-economic status (SES), ethnicity, native language, and disability status. The Early Reading First program (ERF), sponsored by the U.S. Department of Education included preschool as part of the wider efforts of NCLB. The overall purpose of ERF was to develop model "preschool centers of excellence" that enhance the early literacy skills of low-income preschool children. The intent was to imbue research-based practices into early childhood programs at multiple levels including teacher professional development, curriculum and instruction, classroom environment and materials, and child assessment.

From 2002 through 2009, the U.S. government awarded approximately 30 ERF grants per year, serving about 31,000 children annually. With a total investment of almost $US800 million, the cost per child was over $US3,800 (U.S. Department of Education, n.d.a). Most ERF grantees were local public school systems (49 %), nonprofit organizations (24 %), or universities (20 %). Compared to the U.S. national average, children in ERF were more likely to live below the poverty line, be of Hispanic heritage, live in single parent households, and have foreign-born parents (U.S. Department of Education, n.d.b). ERF grantees were given much latitude in program design but were required to collect and report data on a core set of five performance measures (U.S. Department of Education, n.d.c).

ERF represents a large-scale experiment regarding the potential of intensive professional development to improve preschool practices and child outcomes. Because ERF was intended to promote school readiness, defined as emergent literacy, an analysis of the program can also inform the debate concerning the extent to which preschool education should have an academic focus. The purpose of this chapter is

to present the results of an ERF project conducted in the state of Hawai'i. We will discuss our results in the context of existing research on early literacy and what is known about the ERF program as a whole.

The goal of our study was to evaluate the results of an early literacy intervention package. This package integrated a literacy-focused curriculum with intensive professional development and family home engagement component. We expected that the intervention would result in positive changes in:

- teacher knowledge, skills, and attitudes about early literacy,
- literacy instruction practices and classroom quality,
- family support for early literacy learning in the home and
- child literacy outcomes.

Intervention Model

Research-Based Curriculum

Curriculum Content *Learning Connections* (LC) is an enrichment curriculum (DeBaryshe & Gorecki, 2005, 2007; DeBaryshe, Gorecki, & Mishima-Young, 2009; DeBaryshe, Kim, Davidson, & Gorecki, 2013; Sophian, 2004) developed for use as a supplement to a more holistic or comprehensive preschool curriculum. Learning goals were based on a review of the research literature and standards and recommendations of key educational organizations and review panels (e.g., Copple & Bredekamp, 2009; International Reading Association and the National Association for the Education of Young Children, 1998; National Association for the Education of Young Children and the National Council of Teachers of Mathematics, 2002; National Early Literacy Panel, 2008). Results of two quasi-experimental field trials indicated that children exposed to LC for one school year show greater gains than children in closely matched control classrooms on measures of emergent reading, phonemic awareness, letter-sound correspondence, emergent writing, and emergent math, with effect sizes ranging from $d = .21–.81$ (DeBaryshe & Gorecki, 2005, 2007; Sophian, 2004).

The full LC curriculum addresses emergent literacy and emergent mathematics. However, the intervention described in this chapter included only the literacy components. LC literacy domains and child learning goals are shown in Table 10.1. LC was designed for use in mixed-age preschool classrooms (i.e., those serving both 3- and 4-year-old children), so lessons needed to cover a fairly wide range of skills. A teacher's manual includes over 140 developmentally sequenced classroom and home activities. Examples of lessons from each domain are given below.

A key oral language activity was small-group dialogic reading. Dialogic reading is an interactive read-aloud technique shown to promote oral language skills, especially vocabulary growth (Hargrave & Sénéchal, 2000; Wasik, Bond, & Hindman, 2006; Whitehurst et al., 1988). In dialogic reading, the adult scaffolds the

Table 10.1 LC curriculum domains and learning goals

Oral language
To follow two-step and multi-step directions
To communicate needs, questions, emotions, and thoughts with increasing sophistication
To use increasingly diverse and sophisticated vocabulary
To engage in conversations of increased length and complexity
To increase English language competence while maintaining heritage language growth
Phonological and Phonemic awareness
To recognize and discriminate environmental sounds
To segment and blend compound words and syllables
To recognize and generate rhyming words
To segment and blend onsets and rimes
To recognize and generate words with the same initial and final sounds
To segment and blend phonemes in consonant-vowel-consonant words
Alphabet knowledge and Print awareness
To show independent interest in and use of books and print materials
To recognize and identify letter symbols and letter names
To identify letter-sound correspondences
To track print from left to right and top to bottom
To be aware of the functions of print
To make use of environmental print
To use print to convey meaning
To read consonant-vowel-consonant words
Emergent writing
To use writing to convey meaning
To strengthen fine motor skills and use tools in preparation for writing
To use increasingly higher levels of emergent writing
To use a left-to right and top-to-bottom orientation when writing
To begin to spell simple words using letter-sound correspondence
Approaches to learning
To increase attention and persistence when doing LC activities
To incorporate newly learned skills in free play
To use prediction, comparison/contrast, definitions, and taxonomic knowledge in the context of discussing LC activities

book-related discussion by asking challenging questions, explaining new concepts, having children make connections between the book and their own experiences, and responding to children's interests. Other examples of LC language activities included having children retell stories from their favorite classroom books, and teachers using target vocabulary words, dialogic conversation strategies, and selected props as they interacted with children in the dramatic play center.

Phonological and phonemic awareness was addressed through short games that teach children to attend to the units of sound within spoken words. Examples include clapping out the number of syllables in classmates' names, using rubber stamps and ink to make prints with pairs of rhyming words, and a classroom or neighborhood

scavenger hunt to find objects that start with a particular sound. Phonemic awareness games were sequenced in order from larger to smaller sound units: e.g., compound words, syllables, onsets and rimes, individual phonemes and from easier to harder sound analysis skills, e.g., detect, match, generate, blend, or segment sound units.

Activities often combined skills from two or more literacy domains. For example, in the mystery box activity, children reached into a shielded box full of small toys and guessed which object they were holding. If the objects were selected to start with the sounds /m/, /t/, and /a/, children would then sort the objects into groups based on first sound, placing toys next to letter cards m, t, and a.

Print concepts were addressed through activities such a neighborhood sign walk to identify environmental print and having children take turns physically tracking print on chart paper as the teacher and child re-read a class-created morning circle time message. An example of an *alphabet* activity is a Montessori technique called the three period lesson. In this game, children are shown three large sandpaper letters. In the first period the teacher shows one letter at a time, reviews the name or sound, and asks children to trace the letters with their fingers while saying the name or sound. The second period is short, fast-paced game that provides repeated opportunities to pair the letter symbol with the name or sound. For example, "Kiana, give /m/ to Sarah. Sarah, put /m/ in my lap. Kianna, take /s/ from Zach and put /s/ on your head. Zach, swap /s/ for /a/." In the third period, the teacher reviews these associations by showing one letter at a time and having children say the letter name or sound.

Emergent writing activities supported children's attempts at meaningful written communication. Scaffolded journaling was a key writing activity. Working one-on-one or in small groups, teachers and children responded to a daily writing prompt. The teacher would support the child in first deciding what message he or she wanted to convey. The teacher would then have the child write as much of a message as he or she could with modest support, aiming over time to move to higher levels of emergent writing. Children just starting to differentiate writing from drawing might be asked to explain which part of the page represented their picture versus their signature. Children who could form some printed letters might be prompted to label their drawing with a letter representing the first sound of one of the objects included in their message. Children with stronger phonological awareness and alphabet skills might be encouraged to say the words slowly and write down as many sounds as they heard.

Other emergent writing activities involved shared writing. Children made group-authored classroom and family books. Morning message was a common large group activity. Children and teachers would discuss a topic and several children would dictate a message for the teacher to write on chart paper. These messages were then read aloud by the group.

Literacy skills were taught within the context of monthly units of study, for example, nutrition, plants, wild animals, domestic animals, marine life. Target vocabulary words were selected to represent the 'big ideas' of the current unit. Additionally, target vocabulary were what Beck, McKeown, and Kucan (2002) call tier 2 (sophisticated) and tier 3 (technical) words. Books, songs, poems, and dra-

matic play materials were selected to complement the unit of study. Skill-oriented lessons were also adapted to complement the unit. For example, during ocean month, syllable clapping was done using words such as algae and octopus.

Lesson Plans Teachers were provided with weekly LC lesson plans. Each day included one or two LC large group activities, two or three LC small group activities, and suggestions for transition and extension activities, unit-related songs, books, and dramatic play props. Lesson plans were presented in two levels with one set of LC small group activities for children who were younger or had less advanced literacy skills and another set of small group activities for older or more advanced children. Alphabet letters were introduced in sets of three (usually two consonants and one vowel) to allow more advanced children to start to form consonant-vowel-consonant (CVC) words. Both new letters and review letters were indicated on the lesson plan. Over time, teachers were given increased responsibility for designing lesson plans with their classroom coach.

Individualized Instruction Individualization occurred primarily in the context of small group instruction. At the start of the year, and at least monthly thereafter, teachers collected curriculum-based assessment (CBA) data to monitor children's progress. This assessment involved rating the child's progress on LC learning goals and specific curriculum activities. The rating sheet was organized by content area and developmental complexity; by looking at the sheet, teachers could determine what a child has mastered and which skills and activities they should work on next. CBA results were used to identify small groups of two to five children with homogenous skills. Teachers (lead and assistant) were responsible for particular small groups; this was intended to support the establishment of close teacher-child relations and allow the teacher to develop in-depth knowledge of each child's skills and needs. Group membership could change in response to CBA results, but most groups remained stable over the school year.

Individualization occurred in three ways. First, as mentioned above, parallel lesson plans were written at two levels; the small group activities in each level addressed similar content areas (e.g., phonological awareness) but different degrees of skill complexity. Teachers would follow the more advanced or less advanced activity on the lesson plan, depending on the skill level of the small group. Second, each assigned activity could also be done with a number of modifications to make it easier or harder, depending on the particular children within the small group. Finally, we included a response to intervention (RTI) protocol (Buysse & Peisner-Feinberg, 2013) for children not making adequate progress. Children in the bottom 20 % on CBA measures of oral language and/or alphabet knowledge for their age group were provided with additional one-on-one instruction using alphabet games or dialogic reading (known as Tier 2 instruction). Alphabet instruction was not provided for younger children during the first half of the school year, as most 3-year-olds started the year with minimal alphabet skills. Sessions lasted for 20–30 min and were conducted two to three times per week by a graduate student. Children with identified special needs (Tier 3 instruction) received instruction as specified in their Individualized Education Plan.

Professional Development and Coaching

Professional development (PD) was intensive and each component was integrated to form a coherent whole. The ERF training team (University faculty and a master's-level project coordinator) provided quarterly in-service workshops for a total of 56 h per school year. To help create a team-wide learning community, coaches, RTI staff, and Head Start supervisors facilitated the workshop sessions. Content included the research basis for the LC curricula, developmental sequences and mechanisms, and hands-on practice of interaction strategies, curriculum activities, and use of assessment tools. Applications for dual language learners and children with special needs were integrated in each topic. To enhance teachers' understanding of the classroom quality measures on which they were evaluated (see below), teachers received full or abbreviated versions of the observer training protocols. Additional topics included classroom environmental design, collaboration with families, and kindergarten transitions.

In-service workshops provided only the foundation for actual classroom practice. In-class coaching was the mechanism through which teachers were supported in the actual implementation and honing of the ERF intervention. Coaches were experienced classroom teachers with at least a master's degree (one coach had a doctoral degree) in early childhood education. Coaches worked with each classroom team to implement and reflect on their use of the LC curriculum, target instructional and individualization strategies; revise grouping and scheduling practices; improve environmental design; increase family engagement; and use assessment data for continuous improvement.

Each coaching visit lasted for 5–6 h. In the morning, coaches would demonstrate, observe, collect assessment data, and consult as needed with individual teachers. Technical assistance meetings were held with the classroom team during naptime (for full-day sites) or after the children were gone for the day (for part-day sites). The coaching model was primarily skill-focused, with aspects of cognitive coaching, such as self-directed learning (Walpole & Meyer, 2008). The coaching agenda followed a planned content sequence but also allowed for flexibility in meeting unique classroom priorities. Approximately half of the coaching meetings focused on curriculum planning, modeling and practicing new lessons, and discussing children's progress and individualization needs. The remaining meetings were devoted to quality improvement. This included discussion of teaching fidelity and classroom quality data, reflecting on videos of classroom practices, reviewing reading assignments, and creating or reviewing written classroom action plans.

Teachers were also offered three tuition-free college courses open only to ERF teachers, coaches, and Head Start supervisors. Course instructors worked closely with the ERF training team to integrate course content and assignments with ERF project goals. All participants met as a group, with different assignments and expectations for those enrolled at the associate (2-year degree) versus bachelor (4-year degree) level.

Family Engagement

Quarterly parent workshops were provided in the classroom, led by ERF staff and teachers. The first workshop covered the domains of the LC curriculum, during which parents rotated through learning stations and participated in sample classroom activities. Subsequent workshops focused on a content area such as reading aloud or emergent writing. Each meeting included a discussion of developmental sequences followed by modeling and practice of strategies and activities to support children's learning.

In addition to workshops, families were provided with weekly home activities that extended LC curriculum content introduced in the classroom. Each activity was quick to do and some were designed to be done in the context of family routines such as mealtime or commuting. Families were provided with short written instructions and any needed materials. Written translations were available in two common home languages (Chinese and Chuukese). Examples of home activities include reading and acting out one of the child's favorite storybooks, identifying first sounds in the names of food items eaten at dinner, clapping syllables in the names of objects collected on a home scavenger hunt, and writing and illustrating a family book to share at school. Teachers and coaches provided short demonstrations of the new activities as they were distributed and consulted with families in small groups or individually. The purpose was to clarify parents' understanding of the goals of an activity, provide ideas for individualization and promote ongoing dialog about the child's learning. In the last 2 years of the project, a bilingual graduate student worked with the teachers and coaches to provide support for Chinese speaking families. Each month, families were given new books to add to their child's home library. Selections represented a mix of fiction, non-fiction, and instructional (e.g., alphabet, rhyme, alliteration) texts related to the unit of study.

Methods

Participants

Classrooms from the same Head Start program participated as intervention sites. Head Start is a federally-funded preschool program offered free of charge to low-income children. Head Start provides comprehensive services including developmental, health, and dental screening; educational programing; and family support. The classroom intervention started in January 2010, half way through the school year, and continued for three additional school years. The original intention was to serve ten classrooms for two and one-half school years. One site closed after the second project year. Per the funder's requirement, a replacement classroom was added, yielding a total of 11 classrooms for the project overall. The final project year was funded by a no-cost extension. Eight classrooms volunteered to remain for the fourth optional year.

The typical Head Start classroom operates on a part-day schedule and follows a 10-month school year. Most project classrooms followed the traditional Head Start calendar; however, three classrooms offered extended-day, year-round services. Three other classrooms were inclusion sites, operated under a collaborative arrangement with the state Department of Education. Inclusion sites reserved up to six slots for children with a diagnosed special need and were staffed by a Department of Education certified special education teacher and an educational aide in addition to the regular Head Start lead and assistant teacher. Depending on the classroom type, the teacher-child ratio ranged from 1:10–1:5.

Fifty-four teachers participated in the project. Lead teacher positions were highly stable (i.e., all remained employed for the duration of the project) but there was considerable attrition among the assistant teachers. At the start of the project, the average years of teaching experience was 15.8 years for lead teachers and 5.8 years for assistant teachers and aides. Twenty percent of lead teachers had a postgraduate degree, 40 % had a 4-year bachelor's degree, and 40 % had a 2-year associate's degree. Among assistant teachers and aides, the figures were: bachelor's degree, 13.5 %; associate's degree, 24 %; a six-course Child Development Associate certificate (CDA), 13.5 %; and high school diploma, 49 %. Eight teachers earned a new credential during the project; most of the changes involved assistant teachers completing a CDA.

A total of 560 children participated in the intervention. This represents the unduplicated headcount of children who were enrolled for at least one full school year. Children were predominantly of Native Hawaiian (35 %), Asian (28 %), and other Pacific Islander (15 %) heritage. Twenty-one percent of the children were dual language learners and 9 % had special needs. Head Start serves mixed-age groups of 3- and 4-year-old children; most children (70 %) were in the older age group. About 13 % of children enrolled for two consecutive years.

Measures

Classroom Quality Data were collected three times per year (twice in year 1) on the Early Language and Literacy Classroom Observation (ELLCO) (Smith, Brady, & Anastasopoulos, 2008), and the Classroom Assessment Scoring System PreK (CLASS) (Pianta, La Paro, & Hamré, 2008). Observations were conducted by reliable evaluators. The ELLCO has two scales, General Classroom Environment (e.g., scheduling, classroom management) and Language and Literacy (e.g., materials and interactions to support oral language, book use, emergent writing, phonological awareness). The CLASS scales are Emotional Support (e.g., affective climate), Classroom Organization (e.g., time use, classroom management), and Instructional Support (e.g., interactions that support language, cognition, and critical thinking). Both are widely-used instruments and the CLASS in particular has strong evidence for external validity.

Family Engagement A comment sheet/rating scale was included with each weekly home activity. The percentage of home activity comment sheets returned was used as a proxy measure of completion of the home activities.

Child Outcomes Children were assessed twice yearly by trained evaluators on the *Peabody Picture Vocabulary Test (4th. Ed.)* (PPVT) (Dunn & Dunn, 2007) and the *Test of Early Reading Abilities (3rd. Ed.)* (TERA) (Reid, Hresko, & Hammill, 2001). The PPVT is a widely-used measure of receptive vocabulary. The TERA includes alphabet knowledge, print concepts, and use of environmental print. Results for both tests are expressed in quotient scores. Alphabet knowledge data were collected by both teachers and the assessors. This included upper and lower case letter names and lower case letter sounds (e.g., naming or giving the sound of a letter shown on a card).

Teacher Outcomes Data were collected on the fidelity of teachers' implementation of LC activities, knowledge, beliefs, self-reported changes, and consumer satisfaction. Starting in year 2, coaches observed each teacher conducting an LC large or small group activity every 6–8 weeks and collected *LC fidelity* data. Each lesson was rated for (a) accuracy of implementation, (b) quality of instruction, (c) individualization, and (d) success in engaging children using a five-point scale where 1 = "poor," 3 = "acceptable," and 5 = "mastery." At program entry and exit, teachers were administered a 30-item multiple choice *LC Knowledge Test* developed by the lead author. This test covered declarative knowledge about early literacy development and instruction consistent with the principles covered in the professional development package. At the start and end of each year, teachers were also administered an eight-item survey of *literacy beliefs* (alpha = .80) developed for the project. Items were scored on a five-point Likert scale. Sample items include "Preschoolers can use print or writing attempts to communicate with other children" and "Rhyming is too hard for most preschoolers" (reverse coded). The end of the year survey also included sets of items about *perceived changes* in classroom practices and *satisfaction* with the ERF intervention. Open-ended comments were solicited on the year-end surveys and annual focus groups were conducted by an outside evaluator. Focus group notes and open-ended comments were subjected to a content analysis.

Results

Classroom Quality

Scores on the ELLCO and CLASS dimensions are shown in Fig. 10.1. There was some evidence for seasonal effects, with lower scores at the start of a school year, especially for the CLASS. The main finding was the steady and dramatic

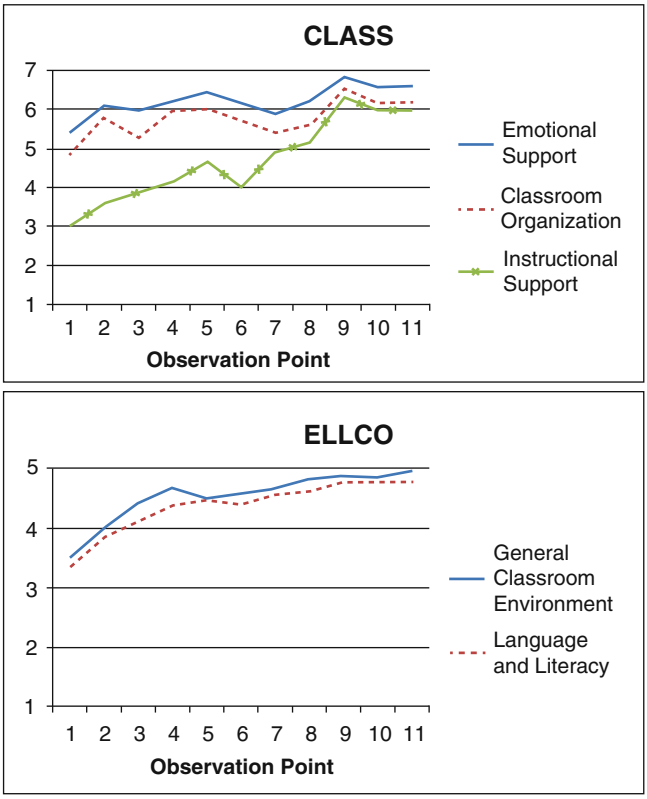

Fig. 10.1 Classroom quality over time (*Note.* Times 1 and 2 occurred in January and May of project year 1. After that, observations occurred in August, January, and May)

improvement in both quality assessments over time. Pre-to-post differences were statistically significant and unusually large in magnitude (Lipsey & Wilson, 2001). Effect sizes were smallest for Classroom Organization ($d = 1.35$), intermediate for Emotional Support and Language and Literacy ($d = 2.08$ and 2.33, respectively) and largest for Instructional Support and General Classroom Environment ($d = 2.92$ and 3.34, respectively). By the end of the third project year, scores were at or approaching ceiling level, indicating that very high levels of quality were achieved.

Family Engagement

The main measure of family engagement was the return rate for the weekly home activity comment sheets. The mean return rate was 89, 72, 68, and 86 % for project years one through four, respectively. Most families did almost all the home activities and returned the comment sheets. A smaller group, about 10 % of families showed a consistent pattern of not engaging with the home activities. One classroom with

low teacher buy-in had notably lower return rates and attendance at the family workshops.

No direct observation was conducted of the quality of teaching or interaction around the home activities. However, in data presented elsewhere (DeBaryshe et al., 2013), parents reported high levels of satisfaction with the home activities. Parents and children enjoyed doing the activities together, which were valued both as learning experiences and as a chance to share quality parent–child time. Parents felt they became more aware of their child's interests and capacity to learn, more child-focused in their instructional interactions, and more skilled at supporting their child's school readiness.

Child Outcomes

Results for the child assessment items are shown in Table 10.2. With only one exception (vocabulary scores in project year 1), children showed significant pre-post gains on each assessment. As would be expected, effect sizes were large for alphabet knowledge ($d = 1.15$ averaged across all project years) which was measured in raw score units and more modest for the two age-normed standardized tests (mean $d = .23$ for the PPVT and .44 for the TERA). Effect sizes were smallest during the abbreviated first project year. Effect sizes for alphabet knowledge were much higher in years 3 and 4. This suggests that teachers became more successful in

Table 10.2 Descriptive statistics, t-tests, and effect sizes for child outcomes

		Pre Test		Post Test				
Year	Variable	*M*	*SD*	*M*	*SD*	*t*	*d*	*n*
1	PPVT	92.91	13.37	94.01	13.49	1.71^{+}	0.08	169
	TERA	90.48	13.08	93.31	14.32	3.66**	0.20	155
	Alphabet[a]	7.66	7.02	12.13	8.11	17.56**	0.56	175
2	PPVT	92.24	15.29	96.16	14.68	4.56**	0.26	159
	TERA	88.50	11.59	94.75	15.39	5.84**	0.44	120
	Alphabet[b]	5.93	7.48	13.79	8.28	16.00**	0.99	163
3	PPVT	90.67	16.28	95.91	14.07	5.75**	0.34	168
	TERA	88.73	13.45	98.96	17.00	9.95**	0.64	135
	Alphabet[b]	5.49	6.95	16.94	8.00	21.62**	1.52	175
4	PPVT	91.74	14.94	95.32	12.96	3.71**	0.25	141
	TERA	87.76	13.14	94.32	12.97	5.38**	0.50	105
	Alphabet[b]	5.98	7.21	17.66	7.91	20.55**	1.54	145

Note. Based on the federal fiscal year, the first project year was abbreviated, with the intervention starting in January

$^{+}p < .10$, $*p < .001$, $**p < .0005$

[a]Alphabet composite for Year 1 is the mean of lower case letter names and lower case letter sounds

[b]Alphabet composite for Years 2–4 is the mean of upper and lower case letter names and lower case letter sounds

promoting alphabet knowledge with increased experience in the program. A particularly striking change in alphabet knowledge was that by the end of the project, children showed similar levels of knowledge of upper and lower case letter names and letter case letter sounds. Early in the project, performance was higher on upper case names compared to lower case names, and much lower on letter sounds. This suggests that children's alphabet knowledge became more broadly based.

Teacher Outcomes

There was evidence that the intervention affected teachers' knowledge, beliefs, and curriculum-specific practices. Changes in declarative knowledge on the knowledge test were modest. ERF teachers had average knowledge scores of 63 % correct at pretest and 80 % at posttest. A group (lead vs. assistant role) by time (pre vs. post) ANCOVA with participant duration as a covariate indicated that this change was almost entirely due to increased knowledge among the ERF assistant teachers, $F_{(1, 21)} = 4.17$, $p < .05$, $\eta^2 = .69$. There was also a modest change in teacher's self-reported beliefs on the eight-item belief scale. Repeated-measures ANOVAs for teachers with a minimum of seven data points showed significant linear trends over time for literacy beliefs, $F_{(6,16)} = 5.56$, $p < .0005$, $\eta^2 = .26$.

Teachers delivered curriculum lessons with very good observed fidelity, averaging a score of 4.22 on a five-point scale. Fidelity increase significantly from a teacher's first project year to his/her final project year, $F_{(1, 26)} = 10.58$, $p < .004$, $\eta^2 = .30$. This indicates that with increased experience in ERF, teachers became more skillful in their instruction. Fidelity was not associated with classroom role or level of education. Fidelity was higher for teachers with stronger knowledge and beliefs consistent with research-based practice. When considering the scores averaged across all data collected on a particular teacher, fidelity was associated with teacher knowledge, $r = .47$, $p < .003$, and literacy beliefs, $r = .38$, $p < .01$.

At the end of each year, teachers were asked to rate their practices and expectations compared to what they were before they joined the intervention project. The majority of teachers felt that they devoted more time for focused literacy instruction and small group learning (85 and 81 %, respectively) compared to practices before starting ERF. A similar percentage (81 %) said they increased their expectations for what preschool children can learn. A very high proportion of teachers (91 %) reported that children in their classrooms made more progress on literacy skills than before the intervention. This did not appear to come at a cost in terms of child well-being, as 75 % of teachers felt that ERF children showed more motivation and enjoyment of learning.

Teachers provided positive ratings on consumer satisfaction items regarding the ERF curriculum and materials, PD, child progress, and their own ability to understand and implement new principles and practices. Only two areas received consistently lower satisfaction scores (i.e., 2.5–2.9 on a 4-point scale)—the amount of

preparation time required and the time per day devoted to intervention activities on the daily lesson plans.

Themes prevalent in teachers' focus group discussions and open-ended comments on the annual surveys included the following:

- The ERF intervention was demanding and required a considerable learning curve. The first year was especially stressful. Teachers had to learn new curriculum activities and the justification for the curriculum sequence. It took time for teachers to be comfortable with delivering the lessons and understanding how to "make them their own," i.e., to follow the principles flexibly but accurately rather than using the lessons plans as a script. Many expectations for teachers' performance changed simultaneously. In addition to learning a new curriculum, teachers were asked to adopt new interaction strategies, make scheduling and environmental changes, increase instructional responsibilities for assistant teachers, use more small group instruction and assessment-based planning, and give increased attention to family involvement. The new approach required more preparation time, planning, and individualization as well as sheer minutes of the classroom day. These concerns decreased over time. A less common concern was that the focus on language and literacy came at a cost to other developmental areas.
- Teachers bonded with their coaches and felt that coaching was invaluable to the success of the intervention. Also highly valued was the peer learning community that emerged from multiple years of intense group PD that allowed classroom teams to work together and provide mutual support.
- Most teachers who stayed in the intervention for multiple years saw it as a transformative experience. The valued all the PD components, and became "converts" to the main principles around which the intervention was designed. Teachers felt they became more accomplished professionals and wanted to share their experiences with colleagues in their own Head Start program and the local early childhood community. Several teachers assumed new leadership roles, taking new positions and/or making public presentations for the first time.
- There were concerns about maintenance once the ERF grant was over. Most teachers expected to continue the LC language and literacy instruction on a less intense basis. Teachers were especially sorry to lose access to the ERF coaches.

Teacher buy-in, philosophical fit, and resistance are important issues in school change (Landry et al., 2009; Toll, 2005). Although these issues did not emerge as consistent themes in our analysis, they are worth mentioning. Most teachers were moderately to highly eager to participate in ERF. Some took a wait and see attitude, withholding judgment until positive results were seen. These teachers tended to enjoy debating with their coaches and actively sought to integrate ERF principles with their existing notion of effective teaching. A small number of teachers remained philosophically opposed to ERF, seeing it as antithetical to their beliefs that classrooms should be child-centered and play-based. These teachers sometimes expressed discomfort to their coaches and saw ERF as a temporary burden that provided a wealth of material benefits rather than long-term professional enrichment.

Discussion

The issue of educational reform and improvement is at the forefront of K-12 education in the U.S., and has percolated down to the preschool level. Early Reading First was an initiative of the U.S. Department of Education intended to improve the quality of language and literacy instruction in preschools serving low-income children. The ERF project described in this chapter showed qualified success in achieving this aim. Classroom quality improved dramatically, including the more elusive aspects of teacher-child interaction that support language and cognitive development and higher-order thinking. ERF classrooms showed levels of instructional support that well surpassed the very low scores typically seen in publically funded preschools and Head Start centers, i.e., below 2.5 on a 7-point scale (Aikens et al., 2011; Pianta et al., 2008). Our project was highly successful in engaging families in supporting their children's learning at home via activities that complemented the classroom curriculum and created a strong home-school partnership towards meeting common goals. Results were more mixed for child outcomes. ERF children showed larger annual gains on alphabet skills than is typically seen in Head Start classrooms (Aikens et al., 2011) and similar gains on the PPVT. Results were quite positive for the TERA, but comparative data from the overall Head Start population are not available.

The larger question for the field is whether the ERF model was worthwhile. As an overall program, did ERF work? Despite the large number of ERF projects, there is little data to answer this question. Required annual posttest reporting data on over 13,000 ERF children indicate that children knew an average of 19 alphabet letters and three quarters had age-appropriate oral language skills. Data from a very small follow-up sample indicate that 81–91 % of ERF graduates showed age-appropriate language and code-related skills at the end of the kindergarten year (U.S. Department of Education, n.d.c). However, a national evaluation including 205 teachers and over 1,600 children conducted with the 2003 grantee cohort provided mixed results (Jackson et al., 2011). Compared to applicants that were not funded, ERF sites in their second project year had stronger professional development systems, including more PD hours and a greater use of coaching; higher overall classroom quality; stronger literacy practices such as interactive book-reading, support for emergent writing, and activities to support phonological awareness; and more use of child assessment. Despite these changes in classroom process, ERF children showed greater change than control children on only one of four outcomes: ERF was associated with better alphabet knowledge, but there were no effects for phonological awareness or expressive or receptive language. This evaluation has been criticized for looking at preliminary results only, overlooking the possibility that grantee performance became stronger with each successive year of implementation and/or that each grantee cohort showed better outcomes as the overall ERF program benefitted from earlier lessons learned.

Only a small number of peer-reviewed publications have resulted from ERF projects and these report positive results. Both Gettinger and Stoiber (2008) and

Gonzalez et al. (2011), found that ERF children made stronger gains than control children on all outcomes measured including oral language, alphabet knowledge, and phonological awareness. In an exceptionally well-designed study, Hindman and colleagues (Hindman, Erhart, & Wasik, 2012; Hindman & Wasik, 2012) found that ERF children made stronger gains on language and alphabet skills. Furthermore, the advantage accrued for language outcomes was strongest for children with low initial vocabularies in classrooms of higher interaction quality. Fewer studies have tracked children into elementary school. Bingham and Patton-Terry (2013) found that ERF graduates maintain language and early reading gains in kindergarten. Another study suggested that the code skills performance gap between ERF children and middle class peers is eliminated by Grade 1 (Martin, Emginfer, Snyder, & O'Neal, 2014). However, both of these follow-up studies were small in size.

The ERF model was extremely resource intensive, beyond the means of most early childhood programs. This raises the question of threshold and sufficiency effects: How much support is necessary, and at what point might it become excessive? Which aspects of the ERF package were most effective and for which outcomes? Since ERF was delivered as a package, little is known about the independent or additive outcomes of each component of the intervention. There is evidence to suggest that consecutive years of coaching and curriculum support results in cumulative benefits. Hindman and Wasik (2012) found continued improvement in classroom quality and child language outcomes when teachers had a second year of intervention. Landry et al. (2011) also found incrementally better performance for child language and literacy growth when teachers had a second year of coaching. In the second year, teachers were also more effective with higher-risk children. This is consistent with the findings from our own project indicating that classroom quality continues to improve for at least 3 years.

ERF is also relevant to debates concerning the wisdom or folly of having an academic focus in early childhood education. There are strong concerns in the field that the preschool and kindergarten years have become too narrowly focused on early reading and math achievement at the expense of other developmental domains, and too results-based, at the expense of developmentally appropriate practice (Bassok & Rorem, 2014; Neuman & Roskos, 2005). Our results suggest that a strong literacy focus does not have to be detrimental. Although our teachers expressed some concerns about giving less time to other curricular areas, they learned how to balance instructional demands and felt that children were more motivated, rather than less engaged, with an intentional curriculum. We also found benefits for the overall classroom emotional climate. Even though coaching efforts focused on instructional content, lesson plans, and time use, classroom emotional support scores increased, perhaps as a result of children becoming more productively engaged as teachers became more intentional in their use of classroom time.

In sum, lessons learned from our project and the ERF program as a whole suggest that intensive efforts to increase literacy instruction can be successful, even though the immediate outcomes for children may be more modest than initially expected. To change teacher practices and child outcomes takes time, on the order of two to three complete school years, and seems to require a considerable investment

in coaching and peer-to-peer support. However, we still know little about the specific processes that lead to significant and lasting change at the classroom level, and the extent to which this translates into long-term benefits for children's academic trajectories.

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References

Aikens, N., Hulsey, L. K., Moiduddin, E., Kopack, A., Takyi-Laryea, A., Tarullo, L., et al. (2011). *Data tables for FACES 2009 Head Start children, families, and programs: Present and past data from FACES report. OPRE Report 2011-33b*. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Bassok, D., & Rorem, A. (2014). *Is Kindergarten the new first grade? The changing nature of kindergarten in the age of accountability* (EdPolicyWorks working paper series no. 20). Charlottesville, VA: University of Virginia.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction*. New York: Guilford.

Bingham, G. E., & Patton-Terry, N. (2013). Early language and literacy achievement of Early Reading First students in kindergarten and 1st grade in the United Sates. *Journal of Research in Childhood Education, 27*, 440–453.

Birman, B. F., Desimone, L., Portyer, A. C., & Garet, M. S. (2000). Designing professional development that works. *Educational Leadership, 57*(8), 28–33.

Bus, A. G., Van IJzendoorn, M. H., & Pellegrini, A. D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research, 65*(5), 1–21.

Buysse, V., & Peisner-Feinberg, E. (2013). *Handbook of response to intervention in early childhood*. Baltimore: Brookes.

Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education, 18*, 947–967.

Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs* (3rd ed.). Washington, DC: National Association for the Education of Young Children.

DeBaryshe, B. D., & Gorecki, D. (2005). Learning connections: A home-school partnership to enhance emergent literacy and math skills in at-risk preschoolers. In A. Maynard & M. Martini (Eds.), *The psychology of learning in context: Cultural artifacts, families, peers and schools* (pp. 175–198). New York: Kluwer/Plenum.

DeBaryshe, B. D., & Gorecki, D. M. (2007). An experimental validation of a preschool literacy curriculum. *Early Education and Development, 18*, 93–110.

DeBaryshe, B. D., Gorecki, D. M., & Mishima-Young, L. N. (2009). Differentiated instruction to support high-risk preschool learners. *NHSA Dialog, 12*, 227–244.

DeBaryshe, B. D., Kim, J., Davidson, D. H., & Gorecki, D. M. (2013). She is awesome and retains information like a sponge: Parent and child outcomes of the learning connections family involvement curriculum. *NHSA Dialog, 16*(1), 120–140.

Dunn, L. M., & Dunn, D. M. (2007). *Peabody picture vocabulary test* (4th ed.). New York: Pearson.

Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan, 76*, 701–712.

Fantuzzo, J., McWayne, C., Perry, M. A., & Childs, S. (2004). Multiple dimensions of family involvement and their relations to behavioral and learning competencies for urban, low- income children. *School Psychology Review, 33*, 467–480.

Fukkink, R. G., & Lount, A. (2007). Does training matter? A meta-analysis and review of caregiver training studies. *Early Childhood Education Quarterly, 22*, 294–311.

Gettinger, M., & Stoiber, K. (2008). Applying a response-to-intervention model for early literacy development in low-income children. *Topics in Early Childhood Special Education, 27*, 198–213.

Gonzalez, J. E., Goetz, E. T., Hall, R. J., Payne, T., Taylor, A. B., Kim, M., et al. (2011). An evaluation of Early Reading First (ERF) preschool enrichment on language and literacy skills. *Reading and Writing, 24*, 253–284.

Hamre, B. K., Pianta, R. C., Burchinal, M., Field, S., LoCasale-Crouch, J., Downer, J. T., et al. (2012). A course on effective teacher-child interactions: Effects on teacher beliefs, knowledge, and observed practice. *American Education Research Journal, 49*, 88–123.

Hargrave, A. C., & Sénéchal, M. (2000). Book reading interventions with language-delayed preschool children: The benefits of regular reading and dialogic reading. *Early Childhood Research Quarterly, 15*, 75–90.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in everyday experience of young American children*. Baltimore: Brookes.

Hindman, A. H., Erhart, A. C., & Wasik, B. A. (2012). Reducing the Matthew effect: Lessons from the *ExCELL* Head Start intervention. *Early Education and Development, 23*, 781–806.

Hindman, A. H., & Wasik, B. A. (2012). Unpacking an effective language and literacy coaching intervention in Head Start. *The Elementary School Journal, 113*, 131–154.

International Reading Association and the National Association for the Education of Young Children. (1998). Learning to read and write: Developmentally appropriate practices for young children. *Young Children, 53*, 3–46.

Jackson, R., McCoy, A., Pistorino, C., Wilkinson, A, Burghart, J., Clark, M., et al. (2011) [2007]. *National evaluation of Early Reading First: Final report*. NCEE 2007-4007rev. U.S. Department of Education, Institute of Education Sciences. Washington, DC: U.S. Government Printing Office.

Joyce, B., & Showers, B. (1995). *Student achievement through staff development: Fundamentals of school reforms* (2nd ed.). White Plains, NY: Longman.

Justice, L. M., Kaderavek, J. N., Fan, X., Sofka, A., & Hunt, A. (2009). Accelerating preschoolers' early literacy development through classroom-based teacher-child storybook reading and explicit print referencing. *Language, Speech, and Hearing Services in Schools, 40*, 67–85.

Justice, L. M., McGinty, A. S., Cabell, S. Q., Kilday, C. R., Knighton, K., & Huffman, G. (2010). Language and literacy curriculum supplement for preschoolers who are academically at risk: A feasibility study. *Language, Speech, and Hearing Services in Schools, 41*, 161–178.

Landry, S. H., Anthony, J. L., Swank, P. R., & Monseque-Bailey, P. (2009). Effectiveness of comprehensive professional development for teachers of at-risk preschoolers. *Journal of Educational Psychology, 101*, 448–465.

Landry, S. H., Swank, P. R., Anthony, J. L., & Assel, M. A. (2011). An experimental study evaluating professional development activities within a state funded pre-kindergarten program. *Reading and Writing, 24*, 971–1010.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis* (Applied social research methods series, Vol. 49). Thousand Oaks, CA: Sage.

Lonigan, C. J., & Whitehurst, G. J. (1998). Relative efficacy of parent and teacher involvement in a shared-reading intervention for preschool children from low-income backgrounds. *Early Childhood Research Quarterly, 13*, 263–290.

Martin, K., Emginfer, K., Snyder, S., & O'Neal, M. (2014). Results for year 2 of an Early Reading First project. *Journal of Research in Childhood Education, 22*, 125–140.

Mashburn, A. J., Downer, J. T., Hamre, B. K., Justice, L. M., & Pianta, R. C. (2010). Consultation for teachers and children's language and literacy development during pre-kindergarten. *Applied Developmental Science, 14*, 179–196.

McWayne, C., Hampton, V., Fantuzzo, J., Cohen, H. L., & Sekino, Y. (2004). A multivariate examination of parent involvement ad the social and academic competencies of urban kindergarten children. *Psychology in the Schools, 41*, 363–377.

Pianta, R. C., Barnett, W. S., Burchinal, M., & Thronburg, K. R. (2009). The effects of preschool education: What we need to know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest, 10*(2), 49–88.

Pianta, R. C., La Paro, K. M., & Hamré, B. K. (2008). *Classroom assessment scoring system manual PreK*. Balmtimore: Brookes.

Pianta, R. C., Mashburn, A. J., Downer, J. T., Hamre, B. K., & Justice, L. (2008). Effects of web-mediated professional development resources on teacher-child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23*, 431–452.

Preschool Curriculum Evaluation Research Consortium. (2008). *Effects of preschool curriculum programs on school readiness (NCER 2008–2009)*. Washington, DC: U.S. Department of Education, National Center for Education Research, Institute for Education Sciences.

National Association for the Education of Young Children and the National Council of Teachers of Mathematics (2002, April). *Early childhood mathematics: Promoting good beginni* ngs. Available online at http://www.naeyc.org/resources/position_statements/psmath.htm

National Early Literacy Panel. (2008). *Developing early literacy: Report of the national early literacy pane*. Washington, DC: National Institute for Literacy.

Neuman, S. B., & Roskos, K. (2005). Whatever happened to developmentally appropriate practice in early literacy? *Young Children, 60*(4), 22–26.

Reid, D., Hresko, W., & Hammill, D. (2001). *Test of early reading ability (TERA)* (3rd ed.). Austin, TX: Pro-ed.

Sénéchal, M., & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A 5-year longitudinal study. *Child Development, 73*, 445–460.

Sénéchal, M., & Young, L. (2008). The effect of family literacy interventions on children's acquisition of reading from kindergarten to Grade 3: A meta-analytic review. *Review of Educational Research, 78*, 880–907.

Smith, M. W., Brady, J. P., & Anastasopoulos, L. (2008). *User's guide to the early language & literacy classroom observation pre-K tool*. Baltimore: Brookes.

Sophian, C. (2004). Mathematics for the future: Developing a Head Start curriculum to support mathematics learning. *Early Childhood Research Quarterly, 19*, 59–82.

Starkey, P., & Klein, A. (2000). Fostering parental support for children's mathematical development: An intervention with Head Start families. *Early Education and Development, 11*, 659–680.

Toll, C. A. (2005). *The literacy coach's survival guide: Essential questions and practical answers*. Newark, DE: International Reading Association.

U.S. Department of Education. (n.d.a). *Funding status*. Retrieved from www2.ed.gov/programs/earlyreading/funding.html

U.S. Department of Education. (n.d.b). *Early Reading First fact sheet*. Retrieved from www2.ed.gov/programs/earlyreading/resources.html

U.S. Department of Education. (n.d.c). *GPRA overview*. Retrieved from www2.ed.gov/programs/earlyreading/performance.html

U. S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy ad Program Studies Service. (2010). *Toward the identification of features of effective professional development for early childhood educators, literature review*. Washington, DC: Author.

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. (2011). *The head start parent, family, and community engagement framework: Promoting family engagement and school readiness, from prenatal to age 8*. Retrieved January 6, 2012, from http://eclkc.ohs.acf.hhs.gov/hslc/standards/IMs/2011/pcfe-framework.pdf

Walpole, S., & Meyer, C. K. (2008). Models for coaching: Making them work for preschools. In L. M. Justice & C. Vukelich (Eds.), *Achieving excellence in preschool literacy instruction* (pp. 69–83). New York: Guilford.

Wasik, B. A., Bond, M. A., & Hindman, A. (2006). The effects of a language and literacy interventions for Head Start children and teachers. *Journal of Educational Psychology, 98*, 63–74.

Whitehurst, G. J., Falco, F. L., Lonigan, C. J., Fischel, J. E., DeBaryshe, B. D., Valdez-Menchaca, M. C., et al. (1988). Accelerating language development through picture book reading. *Developmental Psychology, 24*, 552–559.

Whitehurst, G. J., & Longian, C. J. (2001). Emergent literacy: Development from prereaders to readers. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research*. New York: Guildford.

Chapter 11
Promoting the Predictors of Literacy in Early Childhood Settings: An Analysis of Two Studies in Low SES Settings

Claire J. McLachlan and Alison W. Arrow

Abstract Research suggests that professional learning can enhance the effectiveness of teachers' literacy practices and improve literacy outcomes for children prior to school entry (Cunningham, Perry, Stanovich, & Stanovich 2004, Cunningham, Zibulsky, & Callahan, 2009; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009). Two mixed methods studies (Punch, 2009) presented in this chapter examined the question of whether different approaches to professional learning would lead to improved literacy outcomes in children. Study one asked if a workshop on literacy acquisition would increase teachers' understandings of literacy in four early childhood centres and enhance children's literacy outcomes over an 8 week intervention period, with a fifth centre used as a control (McLachlan & Arrow, 2013). Pre- and post-test measures of children's literacy were collected, along with teachers' accounts of how they promoted literacy during the intervention period. The second study asked if collaborative planned reviews with kindergarten teachers would enhance literacy outcomes for children. Children's literacy was assessed at three intervals, using methods trialled in study one. Teachers' and parents' views about literacy were also collected, and discussed at regular meetings with the research team. Key findings suggest both models lead to changes in teachers' practice and children's literacy outcomes. The implications for effective literacy pedagogies, curriculum and teachers' professional learning will be explored.

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Definitions of Early Literacy

There are some key understandings of literacy that underpinned our work and were discussed with the teaching teams in both studies. The first of these is the term emergent literacy, which is based on the conceptualisation of Whitehurst and Lonigan (1998); there is literate knowledge that is necessary for the act of learning to read, that usually develops during the early years of life, and that this knowledge leads to conventional literacy acquisition. The act of learning to read is, therefore, on a continuum, with early literacy abilities necessary for the acquisition of later developing conventional reading abilities. The continuum itself is based on the Simple View of Reading (Gough & Tunmer, 1986) in which earlier developing literacy abilities directly contribute to later decoding and comprehension abilities. This means that literacy starts in infancy and when children start attending an early childhood centre they display evidence of a continuum of literacy development. Whitehurst and Lonigan (1998) further suggest that there are inside-out (phonological awareness, syntactic awareness) and outside-in (language, narrative) processes involved in literacy acquisition, suggesting both biology and upbringing have roles to play in children's literacy development.

The second set of key understandings is derived from The National Early Literacy Panel Report (NELP) (2009). According to the NELP report children need to develop knowledge of the alphabet, phonological awareness (being aware of sounds in words), the ability to name letters, numbers, objects, colours, to write their own name and to be able to remember spoken information for a short period of time. Children also need to understand print conventions and concepts, have strong oral language and the ability to match and discriminate visual symbols. Knowledge of the alphabet and phonological awareness play a particularly crucial role. Both are necessary, but not individually sufficient to support children's literacy learning. Each has a different role, but together they form the basis of the alphabetic principle, which is the understanding that speech sounds in words are represented by graphemes in print. The combined knowledge means children can use letters and sounds to make phonemically correct representations of words in reading and spelling on school entry. The differences in levels of knowledge and awareness that children have by the end of early childhood can impact on how easily they learn to read at school (e.g., Tunmer, Chapman, & Prochnow, 2006).

The third set of shared understandings is the social practice view of literacy. In terms of social practice of literacy it is understood that there are multiple literacies that children experience in their homes, communities and cultures, which shape the ways in which they experience literacy (Makin, Jones Díaz, & McLachlan, 2007). The term multiliteracies is used to capture the complexities of the range of types of texts in which visual, spatial, gestural and verbal elements are included and which use a wide range of communication channels that influence people's literate prac-

tices (Makin et al., 2007; New London Group, 1996). Like other chapters in this book, we were interested in how children acquire understandings of multiliteracies in early childhood.

What Do We Know About Literacy in New Zealand Children?

There is a significant literacy achievement gap in New Zealand between children from diverse backgrounds in terms of socio-economic status (SES) or ethnicity, and children who struggle with literacy on school entry have lower alphabet knowledge, phonological awareness and receptive vocabulary skills (measures of literate cultural capital). Children in lower SES areas are more likely to have lower levels of literate cultural capital than children from higher SES areas (Mullis, Martin, Kennedy, & Foy, 2007, Mullis, Marton, Foy, & Drucker, 2012; Tunmer et al., 2006). These differences widen from school entry on through Matthew effects where the rich-get-richer and the poor-get-poorer (Stanovich, 1986), leading to the achievement gap reflected in PIRLS (Mullis et al. 2012) and other data. In addition, New Zealand has some specific challenges in relation to the literacy achievement of its multilingual children, as the population includes indigenous Māori, the largest Pacific Island population in the world who speak numerous Pasifika languages and dialects, and an increasing migrant and refugee population speaking a range of languages. In total, nearly 200 languages are spoken in New Zealand (Statistics New Zealand, 2013), creating language and literacy challenges for teachers. There is very little recent data available on New Zealand children's literacy knowledge and skills prior to school, apart from some of our own work (Arrow, 2007; McLachlan & Arrow, 2013) and a few others (Rachmani, 2011; Tagoilelagi-Leota et al., 2005; Tunmer et al., 2006). Research shows that teaching letter sound knowledge and phoneme sensitivity is crucial for children who are "at risk" of reading difficulties, as they lack these particular inside-out processes (Tunmer et al., 2006). Knowledge of children's abilities, combined with knowledge of alphabetic and phonological awareness progression enables the teacher to tailor programmes and instruction to children's level of development (Anthony & Francis, 2005; Boyer & Ehri, 2011).

Literacy is poorly defined in the New Zealand early childhood curriculum, *Te Whāriki* (Ministry of Education, 1996). The curriculum is the legislated curriculum for use in all licensed early childhood services (New Zealand Government, 2008) and the effectiveness of implementation is reviewed on a regular review cycle by the Education Review Office which is independent of the Ministry of Education. The major link is with the curriculum strand of Communication/Mana reo, in which children are expected to:

- Develop verbal and nonverbal communication for range of purposes;
- Experience the stories and symbols of their own and other cultures;
- Discover and develop different ways to be creative and expressive.

There are more minor links with the curriculum strands of Contribution (equitable learning opportunities and valued contributions by children) and Exploration (learning through active exploration) (Ministry of Education, 1996).

Te Whāriki is a competence focussed curriculum, in which children and teachers have choices over the content, sequence and pacing of the curriculum (McLachlan, Fleer, & Edwards, 2013). It has been internationally lauded as a socioculturally focussed curriculum document, which recognises the importance of children's family and community in their learning. However, as critiqued elsewhere, references on how to promote literacy are non-specific and multi literacies and bilingualism/biliteracy are not mentioned, although this is probably due to the age of the curriculum document and changes in immigration patterns in recent years (McLachlan & Arrow, 2011). It does not provide specific advice on the role of the teacher in terms of promoting literacy and has never been evaluated, although the Education Review Office (ERO) recently investigated how centres use *Te Whāriki* and recommended review and revision (ERO, 2013). The findings also suggest that for most services *Te Whāriki* is not used to reflect on, evaluate or improve practice. ERO found that 80 % of the 627 services reviewed included *Te Whāriki* in philosophy, but found wide variation in practice. An earlier review of literacy in 353 services (ERO, 2011) found that approximately 25 % of all centres used inappropriate literacy resources or pedagogies with young children. Although most services provided an appropriate range of literacy opportunities for children, a number of concerns were identified regarding the use of commercial phonics packages with very young children, large formal mat times that did not cater to the diverse abilities of children, and formal and teacher led literacy teaching, which limited children's engagement with meaningful literacy activities. ERO (2011) recommended to the Ministry of Education that written guidelines and expectations for literacy teaching and learning in early childhood be developed, although this has not been acted on.

Levels of literacy knowledge of early childhood teachers in New Zealand is generally unknown. One study that did include early childhood teachers in a study of explicit phonological knowledge found that the ECE teachers had low explicit knowledge overall (Carroll, Gillon, & MacNeill, 2012). Kane (2005) reported that literacy is not a large part of initial early childhood teacher education and early childhood teachers have been found to espouse eclectic understandings of literacy and may be unsure about how to promote literacy acquisition in young children (Foote, Smith, & Ellis, 2004; Hedges, 2003; McLachlan & Arrow, 2013; McLachlan, Carvalho, de Lautour, & Kumar, 2006; McLachlan-Smith, 1996).

New Zealand has national expectations about the types of literacy knowledge, skills and experiences that children should have on school entry at 5 years of age, confirming Olsen's (2009) statement that most countries have expectations for their children regarding 'read what' and 'how well' which underpin policy. The *Literacy Learning Progressions* (Ministry of Education, 2010) specify expectations for chil-

dren at school entry, which include phonological awareness, alphabet knowledge, vocabulary, own name reading and writing, and storytelling. Although the Ministry of Education revised guidelines for literacy in junior primary (Ministry of Education, 2003), it has not done the same for early childhood, despite international evidence supporting the need to do so (NELP, 2009) and local evidence that professional development of teachers influences children's literacy achievement (Mitchell & Cubey, 2003; Tagoilelagi-Leota et al., 2005). Although there is less professional development available to teachers since the National Government sharply reduced early childhood funding in the Budget of 2009 (New Zealand Treasury, 2009), there is growing evidence of what types of professional learning have the most impact on practice. This includes time for reflection, leadership, partnership models and challenging thinking over time (Edwards & Nuttall, 2009), as well as the direct coaching on literacy teaching, which leads to significant gains in children's literacy capabilities (Cunningham et al., 2009; Hseih, Hemmeter, McCollum, & Ostrosky, 2009; Justice et al., 2009; Phillips, Clancy-Menchetti, & Lonigan, 2008).

Supporting Literacy Prior to Primary School Entry

Although there has been considerable writing on how literacy develops in young children, building on the early work of Dame Marie Clay (Clay, 1982; Teale & Sulzby, 1986), more recent research has focussed on how it can be promoted in homes and early childhood settings. There is some international research on how literacy can be taught in early childhood, which was useful to teachers in the present studies. Enriching literacy in the environment is an obvious way to promote literacy, but only if adult mediation is a planned part of the environment (Neuman, 2007). Children who experience a literacy rich environment with adult mediation display greater gains in print awareness, alphabet knowledge and environmental print recognition (Justice & Pullen, 2003; Justice et al., 2009). The curriculum needs to include naturalistic, embedded opportunities for literacy, as well as explicit exposure to written language and phonological awareness.

Piasta and Wagner's (2010) meta-analysis found that specific letter name and sound instruction in ECE had small to moderate effects on the learning of letter names and sounds over and above the influence of phonological processing abilities. Phillips et al., (2008) found that phonological awareness could be supported in children displaying difficulties, using scaffolding and guided participation. They recommend holistic, free play curriculum with 10–15 min per day of explicit tuition for PA. Justice and colleagues (Justice & Pullen, 2003; Justice et al., 2009) found that the way in which teachers used story-book reading also influences literacy knowledge. Book-reading that emphasises the print elements lead to significant gains in concepts about print, alphabet knowledge and name writing ability. Book reading that emphasises questioning and discussing the meaning of the texts leads to gains in oral language and emergent literacy skills. Neuman and Dwyer (2009) found that effective teaching involves being systematic with lots of practice, periodic review of new words and informal assessment of gains over time.

In cultural historical theorising (Vygotsky 1978), there is strong argument that teachers need to provide both *access to* and *mediation of* literacy in the early childhood setting (e.g., Casbergue, McGee & Bedford, 2008; Neuman, 2007). However, Moats and Foorman (2003) propose many teachers have inadequate understandings of literacy, do not recognise children's literacy development and miss opportunities to encourage literacy in natural settings. Cunningham et al. (2004) argue that teachers do not always know what they don't know and that research is needed on 'knowledge calibration' between teachers' perceived and actual knowledge. They further propose that many teachers cannot articulate which literacy resources are effective for promoting literacy and why. Cunningham et al. (2009) further suggest that teachers need to know the predictors of literacy achievement, provide opportunities to enhance literacy acquisition and recognise when children demonstrate achievement of these.

Finally, teachers need to be able to identify children's linguistic capacity and in what language and provide support in bilingualism and biliteracy in the early childhood setting (Du Fresne & Masny, 2006). McGill-Franzen (2010) argues that early childhood teachers have the most marginalised knowledge and skills in literacy of all teachers and few opportunities for professional learning. She proposes teachers need professional learning to increase knowledge of literacy acquisition, the needs of dual language learners, understanding of multilingual, multicultural learners and a range of appropriate pedagogies.

Definitions of Literacy Underpinning the Studies

For the teachers in the present studies, we defined what we meant by literacy, so that it was clear from the outset what our theoretical position was in relation to the professional learning. Principally, we support the simple view of literacy (Gough & Tunmer, 1986). Our definition included Whitehurst and Lonigan's (1998) 'inside-outside' definition of emergent literacy, the NELP (2009) key predictors and recommendations, and a social practice view of literacy (Makin et al., 2007). We proposed that the skills encapsulated in terms of literate cultural capital (Tunmer et al., 2006) for young children included alphabet knowledge, phonological awareness and a large vocabulary. We also drew on the framework for literacy in the curriculum proposed by McLachlan et al. (2013) which involved teachers considering how literacy development, like other essential learning areas of the curriculum, is viewed, what content is valued for supporting learning and who decides on it, what knowledge is prioritised, and how progression is viewed.

Doubek and Cooper (2007) identify critical variables for professional learning for literacy: time; the importance of the role of the leader and their awareness of obstacles to change; understanding an effective literacy environment; and receptiveness to change. Mitchell and Cubey (2003) identified key features of effective professional learning: it builds on teachers' existing knowledge; includes alternative theoretical knowledge and practices; involves investigation and analysis of data by

teachers in their own settings; involves critical reflection; inclusion of diversity; challenges beliefs and practices; and enhances insight into teachers' own thinking and actions. Taken overall, it is considered that single event workshop models cannot give enough time to the key variables when compared to longer-term process models of professional learning (Edwards & Nuttall, 2009). These principles were implicit to both studies discussed in this chapter, but different approaches were explored. The next section presents a brief summary of both studies and key findings.

Methodology: Study 1

Although we accepted the time limitations of event models of professional learning to create changes in teachers' beliefs and practices, we trialed an event model based intervention within four early childhood settings, using a fifth centre as a control. A mixed methods design was used (Punch, 2009) in order to obtain a range of data to answer research questions.

Our aim was to see if we could promote change in teachers' understandings of literacy and their literacy practices with children, using short term professional learning. By deepening teachers' understandings of literacy acquisition, we hoped to promote change in children's knowledge and skills (see McLachlan & Arrow, 2013). Our research question was:

> *Does professional development for early childhood educators on facilitating alphabetic and phonological awareness contribute to growth in alphabetic and phonological awareness in 3–5-year-olds in full-time centre-based care?*

Our objectives were twofold:

1. To examine if professional development can improve teachers' knowledge regarding facilitating alphabetic and phonological awareness in 3–5 year old children.
2. To examine if children's alphabetic and phonological awareness can be enhanced within a holistic, child centered curriculum context within an 8 week period.

A quasi-experimental design was used in which teachers' and children's knowledge was tested at the beginning and end of a data collection in five early childhood centres, beginning with pretesting of children and a professional learning session on facilitating alphabetic and phonological awareness. One centre was used as a control, whereby teachers did not receive the professional development until after the intervention period, so that we could evaluate whether any changes were the result of typical development, rather than changes in resources, activities or teaching practices. We asked teachers to keep a brief log on how they had promoted literacy within the intervention period.

The New Zealand Ministry of Education national database of early childhood centres was used to identify the total number of eligible centres in a medium-sized

Table 11.1 Composition of sample

Centre	Ownership model	Type	No. teachers	Teacher all data	Children with all data	Children included
Centre 1	'not for profit'	Full day care	6	4	17	12
Centre 2	'not for profit'	Sessional, parent educators	8	3	21	13
Centre 3	Private	Full day care	4	4	5	6
Centre 4	Private	Full day care	8	5	12	0

Centres 1–3 are intervention centres and Centre 4 is the control group centre

provincial city. Centres were targeted that had children who were primarily in full-time child care in low socio economic communities, as coming from a low SES background is one of the predictors of reading failure in young children in New Zealand (Tunmer et al., 2006). At the end of the data collection it was discovered that none of the teachers at one of the intervention centres had participated in both pretesting and posttesting, and only five children had completed all data collection. As a result this privately owned full day care centre was dropped from the analyses. The composition of the remaining sample in each setting is presented in Table 11.1. Not all children were post-tested as some did not want to participate and some had moved on to primary school as children in New Zealand start primary schooling on their fifth birthday rather than in yearly intakes. The total number of children included in the following analyses is indicated in the last column of Table 11.1. Not all teachers completed the data collection, thus the number of teachers from each centre that did is also indicated in Table 11.1.

Teachers

Across the five centre 32 teachers completed pretests or posttests and a total of 16 teachers completed both pretesting and posttesting data collections. The sample was all female; five (31.3 %) had Bachelor's degrees, three (18.8 %) held a Diploma in Teaching, two (12.5 %) held Graduate Diplomas in early childhood education, three (18.8 %) were currently training to become qualified, and a further three (18.8 %) held no qualifications. There were no differences between the intervention and control centres in the distribution of qualifications (Mann-Whitney $U = 30$, $Z = .28$, $p = .77$). Overall, however, the number of teachers in Centre three that completed all data does not show that the majority of adults in the center at any one time were parent educators, most of whom did not take part in all the data collection. The number of years spent teaching varied from half a year to 24 years (M = 8.84 years, SD = 8.79), with no differences in distribution across intervention and control centres (Mann-Whitney $U = 31$, $Z = .41$, $p = .68$).

Children

Of the children who participated, 55 children (27 boys, 28 girls) completed the data collection at both pretest and posttest. Children's ages ranged from 36 to 58 months ($M = 49.25$ months, $SD = 5.65$). There were no significant differences in children's age between intervention and control centres (Mann-Whitney $U = 232.5$, $Z = -.521$, $p = .60$).

Measures

Teachers

Teachers were asked to complete a *questionnaire on current practices* concerning alphabetic and phonological awareness, which was based on surveys previously used for assessing teachers' knowledge and beliefs about literacy acquisition (McLachlan et al., 2006; Taylor, Blum & Logdon, 1986). The questionnaire has three components. First, it identifies teacher's perceptions of opportunities they afford children within the centre. Thirteen questions were scored to provide a measure of literacy opportunities, with a higher score indicating higher levels of opportunity for literacy activities. The second component examined teachers' recognition of children's emergent literacy abilities, such as writing, reading signs, and alphabet recognition. This component has a maximum score of 7. Finally, teachers' knowledge of literacy development and their role in this development were examined. Teacher responses to the questionnaire were analysed using content and thematic analysis. At the same time as completing the questionnaire teachers' were asked to complete a *phonological awareness assessment* requiring phoneme segmentation (adapted from Moats, 2000). The maximum score for this assessment was 30. Finally, during the course of the intervention teachers were also asked to keep a logbook of the activities initiated on literacy.

Children

Child data was collected with children in a quiet corner of the centre, by the researchers. Most children had their data collected over several sessions at both pre- and posttest, stopping a session at their request. A brief explanation of measures is provided here, but full details can be found in the report of the study (McLachlan & Arrow, 2013).

The first set of tasks at both pretest and posttest for children were phonological awareness measures. In the first task, *rhyme identity*, children were presented with four pictures, all of which were named by the researcher. The first is the cue word

(e.g., pet) and the remaining three are the target and distracter words (e.g., barn, net, hand). Children are asked to identify which of the three rhyme with, or end the same as, the cue word. The second phonological awareness task assessed *onset identity* in which children were asked to identify which of the three words began the same, or started the same as, the cue word. There were two additional phonological awareness tasks which were developmentally more advanced than the identity tasks (Anthony & Francis, 2005). The *onset labeling task* used a picture of the cue word with children asked to name the first sound of that word. This was followed by a *phoneme blending* task in which children were provided with the phonemes of three to four phoneme words and asked to put the sounds together to identify what the picture was on a card placed upside down in front of them.

Children's letter-knowledge and own name knowledge was also assessed. In the *letter knowledge* task children were presented with each of the 26 alphabet letters in a set random order in lower case. Children were asked to name the letters they know. As letter-sound knowledge lags behind the letter name knowledge of New Zealand young children (Arrow, 2010) a letter-sound task was given to children who had scored 12 or more on the letter-name task. The procedure for this task was identical for the letter name task, but with letter-sounds. *Own-name knowledge* was also assessed by providing children with presented with their name printed on A4 paper in a standardised sans serif font. Children were not told what it was, but simply asked what the word said. This was immediately followed by children being asked to write their own name on a piece of A4 paper, but without the printed name in front of them. Finally, children's *receptive vocabulary* was assessed at pretest only, using the British Picture Vocabulary Scale (2nd edition, Dunn, Dunn, Whetton, & Burley, 1997).

Procedures

The children's pretest data were collected first, and once all the pretests on children had been completed in the centre, a time was scheduled to meet with the teaching team in each of the intervention centres to provide the one-off professional development event. This event took approximately 2 hours for each centre and included the completion of the teacher phonological awareness assessment and survey. The professional development session focused on the predictors of literacy acquisition (NELP, 2009) and different pedagogies for story reading, language and rhyming games, learning alphabet and vocabulary (e.g., Justice & Pullen, 2003; Justice et al., 2009; Phillips et al. 2008; Piasta & Wagner 2010). After the session, teachers were asked to implement what they learned and to a brief journal of new literacy practices.

Teachers and children were post-tested after approximately 8 weeks. Once data were analyzed, the researchers returned to centres to discuss the findings and their literacy practices. In the control center the professional development program was offered after all data was collected, where the implications of the pre- and post-test data for teaching practice were discussed.

Results

The initial analyses of children's data compared the pretest data across the intervention and control early childhood centres. There were no significant differences across centres, except for own name reading. More of the intervention group knew their own name to read, as a proportion, than the control group. However, the effect size for this difference was very low at $r^2 = .09$. As the phonological awareness tasks were administered in order of anticipated difficulty, a number of children did not complete the onset naming or phoneme blending tasks. In the intervention group 15 children scored a mean of 2.80 (*SD* = 3.57) on the onset naming task while two control group children attempted the task but did not score on it. In the next level of difficulty 5 intervention group children attempted the phoneme blending task, scoring a mean of 3.00 (*SD* = 3.67), but no control group children were offered it. Additionally, the alphabet letter sound task was only administered to children who scored 12 or more on the alphabet letter name task. In the intervention group 11 children attempted the task, with a mean of 8.00 (*SD* = 5.55) and two control group children attempted the task with a mean of 7.50 (*SD* = 9.19).

The posttest analyses of the 51 intervention children and the 12 control group children who completed all the analyses are reported in Table 11.2. There were no significant differences that favored the intervention group, but one significant difference that favored the control group, where they improved in own name reading compared to the intervention group. However, the effect size for this was very low at $r^2 = .08$. For the more difficult tasks, 19 children from the intervention group attempted the phoneme blending task, with a mean of 3.26 (*SD* = 3.57), but no control group children completed it. Seven children from the intervention group then completed the phoneme naming task, with a mean of 2.14 (*SD* = 3.39). For the alphabet letter sounds task 11 intervention group children had a mean of 8.09 letter sounds (*SD* = 6.77), and two control group children had a mean of 8.50 (*SD* = .71). What these results suggest is that children in the intervention groups had progressed in terms of literacy knowledge, as more children achieved higher scores on the simpler literacy tasks than the control group.

Table 11.2 Pretest and posttest means for intervention and control groups

	Intervention (N = 43)		Control (N = 12)	
	Pretest	Posttest	Pretest	Posttest
Age in months	50.51 (5.12)	–	48.92 (4.87)	–
Vocabulary SS	92.60 (10.55)	–	99.33 (11.06)	–
Rhyme identity	3.47 (1.76)	4.07 (1.75)	4.08 (1.68)	3.91 (1.44)
Onset identity	2.84 (1.45)	3.40 (1.80)	2.83 (1.64)	2.50 (1.31)
Own name reading	74 (.44)	76 (.43)	42 (.52)	75 (.45)
Own name spelling	.30 (.46)	.48 (.51)	.42 (.51)	.42 (.51)
Alphabet names	5.53 (6.45)	6.69 (6.52)	6.17 (7.18)	6.33 (7.24)

The teacher results were analysed in terms of teachers' perceptions of the provision of literacy opportunities for children, the recognition of literacy abilities within centers, and teachers' understanding of literacy and their role in facilitating literacy development. A thematic analysis of the open-ended questions regarding literacy opportunities for children in the centers found that both intervention and control centers considered they provided language and literacy rich environments for children through the provision of song, name tags, books, posters, games, music, and puzzles. This did not change for any centre type across the course of the intervention.

Similarly, in the recognition of literacy in young children there were no significant differences in the scores on this measure across intervention and control centers at pretest or posttest. However, most teachers were at ceiling on this measure. Understanding how children develop literacy was not well understood by teachers, with no mention of specific forms of knowledge that children would develop, or ideas of developmental progression of emergent literacy skills. The majority of responses to the question on how children develop literacy referred to literacy rich environments, followed by children being read to and being immersed in literacy. Teachers' roles primarily included reading to children, encouraging language development, and providing literacy resources, although the control centre teachers mainly mentioned literacy experiences. There was little change across pretest and posttest on this issue, but there was a drop in the intervention centres for the belief that the teacher's role is to facilitate language development for literacy. Also of concern was the majority response of no response to how the teachers made use of *Te Whariki* in their planning for literacy.

Teacher knowledge of phonological awareness was also low. The average score on phonological awareness was 15.1 from a maximum of 30 at pretest, with higher scores from the control centre. The repeated measures ANOVA carried out on the phonological awareness of teachers measure found no significant differences between centres at pretest or posttest, but it did find an interaction. This interaction is explained by the score drop between pretest and posttest for the control centre and the increase for the intervention centres, suggesting that teachers in intervention centers had a stronger understanding of phonological awareness at posttest and that teachers had collaborated in their answers at pretest in the control centre.

Teachers in all centres, including the control, commented that they were more conscious of supporting literacy during the intervention period. The ways in which intervention centres supported literacy were quite similar, possibly stemming from the discussions at the professional development session. Views on the importance of a literacy rich environment were unchanged, however, more viewed story reading as promoting language development. The intervention centres reported an increased emphasis on sounds in words, pointing out alphabet, recognition of children's names and greater encouragement of writing, which is arguably evident in the results.

Methodology: Study 2

Study two was designed to further develop study one. Our aim was as follows: To examine if collaborative planned reviews with teachers in low SES kindergartens would enhance literacy and numeracy learning outcomes in children aged 3–5 years of age. We wanted to investigate if a more collaborative form of professional learning (Edwards & Nuttall, 2009; Mitchell & Cubey, 2003) would be more effective.

For this study, we again used a mixed-methods design (Punch, 2009) and used many of the instruments and procedures used in study one, with some variations. First, we recruited four low SES kindergartens to participate via the local Kindergarten Association, all of whom had decided to pursue a planned review of either literacy or numeracy. Two of the kindergartens planned to review literacy and two planned to review numeracy. The data reported here relate to the two kindergartens that reviewed literacy, accompanied with control data on literacy from one of the kindergartens reviewing numeracy. Our research design included the following:

- Pre and post semi structured interviews with teachers.
- Pre, mid and post measures of children's literacy (using measures previously described).
- Parent survey.
- Meetings with teachers to discuss findings and explore options for developing the review.

Kindergarten 1 had three teachers, all with qualified, registered and experienced, who had been teaching together for a couple of years, although the head teacher had been in the role for several years. Parents of 30 children gave consent for children to take part in the study, which was essentially all enrolled children, although we only collected data from 26, due to illness and other factors.

Kindergarten 2 had four teachers, also all qualified, registered and experienced. This was a new teaching team, with the head teacher recently appointed from a childcare teaching background and one teacher a relatively new graduate, who previously taught in primary schools. Parents of 14 older children gave consent for children to participate in the study.

A semi-structured interview protocol was used at the beginning and end of the study with teachers. We also developed a questionnaire that was sent home to parents at the beginning of the study. The measures used with children were the same as in study one, except that we gathered them at three intervals throughout the year (pre, mid and post) and we used the British Picture Vocabulary Scale at each interval, so that we measured vocabulary development over the period of intervention. Data from children were collected in centres during session time, like Study one.

Parents' Views of Children's Literacy in Kindergartens

All parents were surveyed about their literacy home practices at the outset of the study, so that opportunities for building on children's funds of knowledge (Moll, 1990) could be built on by the teaching teams. Teachers in Kindergarten 1 later sent a more specific follow up survey, which asked a range of questions that responses to our survey had raised. There was a 100 % response rate from Kindergarten 1 and about 30 % from Kindergarten 2, due to differences in distribution techniques used by teachers in each site. However there was strong commonality in the results. All parents said that they read stories to children every day and most commented that children could write their name, recognise some letters of the alphabet and some showed an interest in playing games like "I spy" or rhyming games. About half of parents said that children used digital technology, such as computers every week, which was of surprise to both teachers and researchers, given the low socio-economic community in which families lived. Most parents commented that they wanted to know more about how to support literacy in their preschool child. Few parents expressed any concerns about their children's literacy abilities or the teachers' knowledge and skills to support them.

In Kindergarten 1 the principle researcher, teachers and a university professional development (PD) facilitator, funded by Ministry of Education, met with families twice – for shared lunches – at which the planned review and results from children were discussed. We also shared labelled photos of children engaged with different types of literacy. The majority of families attended these meetings and engaged in detailed discussions about how to support children's literacy at home.

In Kindergarten 2, one meeting was held with parents in the evening prior to a committee meeting, but was attended by only 4 parents. At this meeting, pictures taken of children engaged with literacy in the kindergarten were also shared, and discussed in relation to literacy learning. Teachers in Kindergarten 2 explained that they had difficulties in getting parental attendance at meetings as many worked full-time or do shift-work. The planned collaborative reviews.

On-going professional development was offered in two kindergartens using a coaching and guiding, collaborative, in-service model (Mitchell & Cubey, 2003). Each self-review was driven by teachers, with input from the research team. At Kindergarten 1 this meant regular meetings (approximately once a month) with the teaching team and a university based PD facilitator. At Kindergarten 2, meetings were less regular (approximately 6 weekly) with just the teaching team. At each meeting, results from children were discussed, along with teachers' assessment and documentation of children's learning. The research team located resources such as free websites for parents and articles on specific aspects of literacy, which had been prompted by the finding of high computer access in homes. The planned review belonged at all times to the teachers, but the Massey research team and PD facilitator acted as critical facilitators.

Planned Collaborative Review in Kindergarten 1

The interviews with the teaching team in Kindergarten 1 revealed strong consistency in beliefs about literacy acquisition. Their primary beliefs about literacy were framed around maturational readiness, with statements about children learning essential knowledge and skills when they are 'ready'. To support development, teachers said that they provided a literacy rich environment and that literacy was integrated into the curriculum for most children. The exception was a more structured literacy time with older children, who were close to starting school, which involved teaching the alphabet, phonological awareness and some high frequency words. None of the teachers could explicitly name a theoretical position that they adopted to guide their literacy practice, but said they were influenced by the theories of Piaget and Vygotsky. Teachers commented that they used *Te Whāriki* (Ministry of Education, 1996) and in particular the Communication strand as a general framework for literacy in the curriculum, but they did not use it for specific planning or activities.

In preparation for the review, the teaching team looked at various areas within the kindergarten environment and how they were being used for literacy using photographs and videotaping of interactions with children, with the support of the PD facilitator. Their observations concentrated on interactions with children. They looked at routines with children and adjusted these as needed. Teachers decided they had more literacy opportunities in inside areas than outside areas. They agreed to have shared and collaborative practices within the teaching team as part of the review.

The surveys of parents reinforced teachers' views of children's early multi literacies at home. Our survey revealed that a number of the families (15 of 20 responses) tell oral stories, which made teachers question the place of oral story telling in the curriculum and how to support children's funds of knowledge (Moll, 1990). Many family traditions of literacy practice were found to be around music and drama. Teachers focussed more intently on the literacy experiences children were bringing to kindergarten and concentrated on how to extend them. They observed that when children were helped to enact family literacies in the curriculum such as use of ICT that their confidence and participation increased.

The ways in which teachers in Kindergarten 1 supported literacy throughout the review were simple yet effective. They increased literacy resources in the kindergarten overall and carefully looked at where literacy resources were located and used. They developed portable resources that could be used outside as well as making tactical resources that children could interact with. They put resources at child level and at thoroughfare points and created opportunities for intentional teaching of literacy. They also increased the use of mats and cushions outside for reading. They put writing materials inside and outside, as their review revealed that literacy materials were mainly inside and used by girls. Teachers increased the use of the alphabet by making alphabet resources using stones and sandpaper, which were used inside and outside the kindergarten. They purchased an iPad and focussed on games

and stories that would promote literacy learning. They more deliberately selected stories and resources to support learning of alphabet, sounds, new vocabulary and increased their focus on high frequency words, but for all children. They increased the use of physical substances such as dough for letter recognition as part of activities provided for children. They also increased their focus on reading stories, singing nursery rhymes and waiata (Māori songs) and songs from other languages, because of the multilingual group of children. They also used resources from other cultures to reinforce children's developing identities and sense of belonging. Teachers utilised puppets outside and oral story telling more to build on oral story telling at home.

Teachers also addressed how they were planning for literacy in the curriculum. In the beginning the majority of documentation was related to using literacy for a purpose, but teachers were less convinced that they were capturing critical questioning or transformation of literacy learning. They began to question what they were documenting and asked what literacy learning looked like for children who spent most of their time outside. Teachers decided they needed to capture children's learning journeys in literacy – from standing back and observing, through to beginning to explore different types of literacy, to mastery of new knowledge and skills – and to look for evidence of progression. They also considered that they needed to make literacy learning more visible in their assessment and documentation of children's learning. Very positive team dynamics and strong established relationships with families made this a dynamic and positive review.

Planned Collaborative Review in Kindergarten 2

Teachers' explanations of literacy were somewhat different in Kindergarten 2. Most explained that they focussed their literacy teaching around perceptions of children's interest and engagement, but would not push children who did not display interest. They all expressed confidence in their ability to promote literacy, given their years of experience, although most said that they were less confident of their knowledge and expertise to promote phonics or phonological awareness. Like the teachers in Kindergarten 1, they were unable to name specific theory or research which might underpin teaching literacy in early childhood, although they also named Piaget and Vygotsky as influential theorists. They all expressed concern about recent changes in routines and the loss of the 'whānau' groups (family groups of 10–15 children) for 10–15 min per day, which had occurred when the head teacher started. Like Kindergarten 1, this group of teachers used the communication strand in Te Whariki as a general framework, rather than a specific guide to practice.

Teachers had had some preliminary discussion with their Senior Teacher about the focus of their review and had divided the review tasks between the team. At each meeting they would discuss what data they had collected and how this was helping to shape the review. The need for a 'literacy audit' was identified to examine whether the kindergarten was literacy rich, which was designed by the principal researcher

and trialled. The audit document enabled evaluation of a range of aspects of literacy in the curriculum, based on previous writing about literacy in the curriculum (McLachlan et al., 2013). It was agreed that the principal researcher should also photograph children at literacy play and share this information with teachers and parents.

The literacy audit revealed that there were some simple ways that literacy could be enriched, such as increasing the number of literacy resources both inside and outside, and that there were missed opportunities for literacy interaction. Teachers reconsidered the format and content of the whole group mat sessions and increased the focus on alphabet, phonemes and vocabulary. A return to the use of whānau (family) groupings for literacy was debated, but rejected. Teachers considered the place of te reo Māori in the curriculum and literacy acquisition, and how to strengthen their bicultural literacy practice. The team spent time at meetings exploring the difference between promoting phonological awareness and running a phonics programme and decided to focus on phonological awareness. They also decided they should increase their engagement with parents about home literacy practices.

In terms of changing practices, teachers reconsidered their use of an iPad and downloaded a number of interactive literacy games and stories, particularly those that would appeal to boys. They increased the amount of textual and writing material available to the children inside and outside the kindergarten, as both were a bit lacking. They reported that they were making much more conscious choices about what books to read to children and what literacy knowledge and skills might be enhanced through the stories they read. They considered the notion of 'noticing, recognising and responding' (Ministry of Education, 2005) to literacy and more actively looked for literacy learning. However, team dynamics and possibly weaker relationships with families in this kindergarten made the planned review quite disjointed and it was difficult to maintain momentum across the period of the study.

Teachers' Reflections on Their Reviews

It proved impossible to arrange a time to post interview teachers from Kindergarten 2, despite six attempts by phone and by email to arrange a time and a request to answer questions by email, but this may be attributable to the timing in December, when the kindergarten was winding up for Christmas. Accordingly, the reflections on planned review reported here belong to Kindergarten 1, who all completed interviews.

All teachers said they were more confident about how to promote literacy in different ways and were much more intentional in their teaching of literacy within the free play environment. They had thought deeply about how to support and extend children's literacy and how to use literacy resources more purposefully in the kindergarten. They all considered they were supporting foundational skills like fine motor skills for writing and supporting knowledge of alphabet and awareness of sounds. They discussed using resources to promote specific skills, such as puppets

for phonological awareness and letter name resources for alphabet and writing and they could see that children's knowledge and skills were growing in response to their teaching. All commented that they were looking more explicitly at the link between teaching and children's outcomes and discussed issues related to assessment and how to track literacy progression using narrative and other forms of assessment. The kindergarten teachers commented on the importance of the teaching team "*being on the same page*", which was problematic in K2. They also commented favourably on the importance of having a 'critical friend' in the form of the research team and their PD facilitator. Further evidence of the success of this review is seen in the comment from the new entrant teacher from a local primary school at a lunch meeting at Kindergarten 1:

> *I can tell the children that come from this Kindergarten this year: they are ready, willing and able to give it a go.*

Descriptive results from both kindergartens show changes in children's literacy knowledge and skills. As Table 11.3 shows, there were generally greater gains in Kindergarten 1, where teachers maintained a strong focus on supporting children's literacy. These can be contrasted with the results from the control kindergarten, in particular, in which children show no real changes over the pre – post test period. Greater gains are particularly evident in own name reading, rhyme awareness and standardised vocabulary scores.

Reflections on Methodology

Although the sample from the kindergartens was not large, the findings do suggest that collaborative planned reviews can lead to changes in teachers' practices and also to children's literacy learning outcomes. These findings support those of Cunningham et al. (2009), Philips et al. (2008) and Justice et al. (2009) who similarly found that working alongside teachers can change literacy practices for the benefit of children. This is certainly an area of literacy research worthy of further investigation with a larger sample.

Collecting complete data sets was a challenge in both studies and the sample size for children was small in study 2, but the data collection methods were fundamentally sound. Further studies should include a longitudinal element, in which children's literacy on school entry is also evaluated. Teachers' reflections on practice might also be enhanced by use of video recording.

Conclusions

The evidence from these two studies suggest that both event and process forms of professional learning create some degree of change in teachers' practices, although the ongoing collaborative method used in Study 2 had richer results in terms of

Table 11.3 Pretest and posttest means and range for child emergent literacy measures

	K 1 Pretest (n = 16)		K 2 pretest (n = 8)		Control pretest (n = 10)		K 1 Posttest		K 2 Posttest		Control posttest	
Literacy measures	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range
Letter names	5.5	0–24	7.6	2–22	2.4	0–18	8.7	0–26	10.3	1–23	4.3	0–21
Letter sounds	8.7[a]	2–13	.5[b]	0–1	15[c]	–	11.4[a]	0–21	9.3[b]	4–13	12[c]	–
Name reading	8 yes	–	8 yes	–	4 yes	–	12 yes	–	8 yes	–	7 yes	
Name writing	4 yes	–	4 yes	–	3 yes		7 yes	–	5 yes	–	7 yes	
Rhyme (max 8)	2.9	0–8	3.6	1–6	3.5	1–8	3.9	0–8	3.9	1–8	4.6	2–8
Onset (max 8)	2.3	0–6	2.4	1–4	1.6	0–4	2.8	0–8	3.6	2–6	3.3	0–8
BPVS	96.2	55–124	103.6	91–111	99.8	81–120	99.3	76–117	102.4	88–113	99.8	82–115

[a]$n = 2$ at pretest and 4 at posttest ; [b]$n = 2$ at pretest and 3 at posttest; [c]$n = 1$ at pretest and posttest

pedagogy. Teachers' knowledge was enhanced by regular and provocative conversations about theory, research and pedagogy, which increased teachers' literacy practices, to varying degrees. This finding supports Cunningham and colleagues' (2004) contention that increasing teacher knowledge can increase knowledge calibration for literacy practice. Collaborative planned reviews with teachers can change practice, but it is time consuming and a costly model of professional learning.

What is significant in both studies is that teachers articulated that they can incorporate intentional teaching of literacy into their curriculum without compromising children's opportunities to participate in a free play environment, supporting the arguments of Neuman (2007) and Casbergue et al. (2008). Results from both studies show it is possible to integrate teaching of phonological awareness, alphabet knowledge and vocabulary into free play early childhood settings in meaningful and authentic ways, without resorting to skill and drill activities. There is some evidence in these studies that changes in knowledge and pedagogies in teachers relates to changes in children's literacy knowledge, skills and abilities, although further research is needed with children from low SES communities in rural, satellite and urban communities who are bilingual or multilingual, who are at even greater risk of reading failure in the New Zealand education system.

References

Anthony, J. L., & Francis, D. J. (2005). Development of phonological awareness. *Current Directions in Psychological Science, 14*, 225–259.

Arrow, A. W. (2007). *Potential precursors to the development of phonological awareness in preschool children.* Unpublished doctoral thesis, University of Auckland, New Zealand

Arrow, A. W. (2010). Emergent literacy skills in New Zealand kindergarten children: Implications for teaching and learning in ECE settings. *He Kupu, 2*, 57–69.

Boyer, N., & Ehri, L. C. (2011). Contribution of phonemic segmentation instruction with letters and articulation pictures to word reading and spelling in beginners. *Scientific Studies of Reading, 15*(5), 440–470.

Carroll, J., Gillon, G., & McNeill, B. (2012). Explicit phonological knowledge of educational professionals. *Asia Pacific Journal of Speech, Language and Hearing, 15*, 232–244.

Casbergue, R., McGee, L. M., & Bedford, A. (2008). Characteristics of classroom environments associated with accelerated literacy development. In L. M. Justice & C. Vukelich (Eds.), *Achieving excellence in preschool literacy instruction* (pp. 167–181). New York: Guilford Press.

Clay, M. M. (1982). *Observing young readers: Selected papers*. London: Heinemann Educational Books.

Cunningham, A. E., Perry, K. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia, 54*(1), 139–167.

Cunningham, A. E., Zibulsky, J., & Callahan, M. D. (2009). Starting small: Building preschool teacher knowledge that supports early literacy development. *Reading and Writing, 22*, 487–510.

Doubek, M. B., & Cooper, E. J. (2007). Closing the gap through professional development: Implications for reading research. *Reading Research Quarterly, 42*(3), 411–415.

Du Fresne, R., & Masny, S. (2006). Cultural influences on early language and literacy teaching practice. *Zero to three*, 52–57.

Dunn, L. M., Dunn, L. M., Whetton, C., & Burley, J. (1997). *The British picture vocabulary scale* (2nd ed.). Berkshire, UK: National Foundation for Educational Research.
Education Review Office. (2011). *Literacy teaching and learning in early childhood*. Wellington, New Zealand: ERO.
Education Review Office. (2013). *Working with Te Whariki*. Wellington, New Zealand: ERO.
Edwards, S., & Nuttall, J. (Eds.). (2009). *Professional learning in early childhood settings*. Rotterdam, The Netherlands: Sense Publishers.
Foote, L., Smith, J., & Ellis, F. (2004). The impact of teachers' beliefs on the literacy experiences of young children: A New Zealand perspective. *Early Years: Journal of International Research and Development, 24*(2), 135–148.
Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education, 7*, 6–10.
Hedges, H. (2003). A response to criticism and challenge: Early literacy and numeracy in Aotearoa/New Zealand. *New Zealand Research in Early Childhood Education, 6*, 13–22.
Hseih, W. Y., Hemmeter, M. L., McCollum, J. A., & Ostrosky, M. M. (2009). Using coaching to increase preschool teachers' use of emergent literacy teaching strategies. *Early Childhood Research Quarterly, 24*(3), 229–247.
Justice, L. M., Kaderavek, J. N., Fan, X., Sofka, A., & Hunt, A. (2009). Accelerating preschoolers' early literacy development through classroom based teacher-child storybook reading and explicit print referencing. *Language, Speech, and Hearing Services in Schools, 40*, 67–85.
Justice, L. M., & Pullen, P. C. (2003). Promising interventions for promoting emergent literacy skills: Three evidence based approaches. *Topics in Early Childhood Special Education, 23*, 99–113.
Kane, R. (2005). *Initial teacher education: Policy and practice. Final report*. Wellington, New Zealand: Ministry of Education.
Makin, L., Jones Díaz, C., & McLachlan, C. (Eds.). (2007). *Literacies in childhood: Changing views, challenging practice*. Marrickville, Australia: Elsevier.
McGill-Franzen, A. (2010). Guest editor's introduction. *Educational Researcher, 39*, 275–278.
McLachlan, C., & Arrow, A. (2011). Literacy in the early years in New Zealand: Policies, politics and pressing reasons for change. *Literacy, 45*, 141–148.
McLachlan, C., Carvalho, L., de Lautour, N., & Kumar, K. (2006). Literacy in early childhood settings in New Zealand: An examination of teachers' beliefs and practices. *Australian Journal of Early Childhood, 31*, 31–41.
McLachlan, C. J., & Arrow, A. W. (2013). Promoting alphabet knowledge and phonological awareness in low socioeconomic child care settings: A quasi experimental study in five New Zealand centres. *Reading and Writing, 27*, 819–839. doi:10.1007/s11145-013-9467-y.
McLachlan, C., Fleer, M., & Edwards, S. (2013). *Early childhood curriculum: Planning, assessment and implementation* (2nd ed.). Melbourne, Australia: Cambridge University Press.
McLachlan-Smith, C. J. (1996). *Emergent literacy in New Zealand kindergartens: An examination of policy and practices*. Unpublished doctoral thesis, Massey University, Palmerston North, New Zealand.
Ministry of Education. (1996). *Te Whāriki. Early childhood curriculum*. Wellington, New Zealand: Learning Media.
Ministry of Education. (2003). *Effective literacy practice in years 1 to 4*. Wellington, New Zealand: Learning Media.
Ministry of Education. (2005). *Kei tua o te pae. Assessment for learning: Early childhood exemplars*. Wellington, New Zealand: Learning Media.
Ministry of Education. (2010). *Literacy learning progressions: Meeting the reading and writing demands of the curriculum*. Wellington, New Zealand: Learning Media.
Mitchell, L., & Cubey, P. (2003). *Professional learning in early childhood settings: Best evidence synthesis*. Wellington, New Zealand: Ministry of Education.
Moats, L. C. (2000). *Speech to print: Language essentials for teachers*. Baltimore, MD: Paul H Brookes.

Moats, L. C., & Foorman, B. R. (2003). Measuring teachers' content knowledge of language and reading. *Annals of Dyslexia, 53*, 23–45. doi:10.1007/s11881-003-0003-7.

Moll, L.C. (ed.) (1990), *Vygotsky and Education: Instructional Implications and Applications of Sociohistorical Psychology.* Cambridge, UK: Cambridge University Press.

Mullis, I. V. S., Martin, M. O., Kennedy, A. M., & Foy, P. (2007). *IEA's progress in international reading literacy study in primary school in 40 countries*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College.

Mullis, I. V. S., Marton, M. O., Foy, P., & Drucker, K. T. (2012). *PIRLS 2011 international results in reading.* Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Retrieved from http://timss.bc.pirls2011/international-results-pirls.html

National Early Literacy Panel. (2009). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy.

Neuman, S. B. (2007). Social contexts for literacy development: A family literacy program. In K. A. Roskos & J. F. Christie (Eds.), *Play and literacy in early childhood: Research from multiple perspectives* (2nd ed., pp. 151–168). New York: Lawrence Erlbaum Associates.

Neuman, S. B., & Dwyer, J. (2009). Missing in action: Vocabulary instruction in Pre-K. *The Reading Teacher, 62*, 384–392.

New London Group. (1996). A pedagogy of multiliteracies. *Harvard Review, 66*, 145–166.

New Zealand Government. (2008). Education (Early childhood services) Regulations 2008 (SR 2008/204).

Olson, D. R. (2009). Literacy, literacy policy, and the school. In D. Olson & N. Torrance (Eds.), *The Cambridge handbook of literacy* (pp. 566–576). Cambridge, UK: Cambridge University Press.

Phillips, B. M., Clancy-Menchetti, J., & Lonigan, C. (2008). Successful phonological awareness instruction with preschool children. *Topics in Early Childhood Special Education, 28*, 3–17.

Piasta, S. B., & Wagner, R. K. (2010). Developing early literacy skills: A meta-analysis of alphabet learning and instruction. *Reading Research Quarterly, 45*, 8–39.

Punch, K. (2009). *An introduction to research methods in education*. Thousand Oaks, CA: Sage.

Rachmani, R. M. (2011). *The effects of a phonological awareness and alphabet knowledge intervention on four year old kindergarten children*. Unpublished master's thesis, University of Waikato, Hamilton, New Zealand.

Stanovich, K. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21*, 360–407.

Statistics New Zealand. (2013). *2013 Census QuickStats about culture and identity.* Retrieved from http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-culture-identity/languages.aspx

Tagoilelagi-Leota, F., McNaughton, S., MacDonald, S., & Ferry, S. (2005). Bilingual and biliteracy development over the transition to school. *International Journal of Bilingual Education and Bilingualism, 8*(5), 455–479.

Taylor, N. E., Blum, I. H., & Logsdon, D. M. (1986). The development of written language awareness: Environmental aspects and program characteristics. *Reading Research Quarterly, 12*(Spring), 132–149.

Teale, W., & Sulzby, E. (Eds.). (1986). *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.

Treasury, N. Z. (2009). *Vote education: The estimates of appropriations 2009/2010*. Wellington, New Zealand: Author.

Tunmer, W. E., Chapman, J. W., & Prochnow, J. E. (2006). Literate cultural capital at school entry predicts later reading achievement: A seven year longitudinal study. *New Zealand Journal of Educational Studies, 41*, 183–204.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Cambridge, MA: Harvard University Press.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*, 848–872.

Chapter 12
Digital Technologies in the Literate Lives of Young Children

Brian Finch and Alison W. Arrow

Abstract New domestic digital technologies (smartphones, iPads, tablet computers, laptops) have altered children's access to narratives and information. Limited teacher knowledge of students' experiences of digital technologies, and of the technologies themselves limits their effective use in primary classrooms. In early childhood education settings, when the technology is available, there is a tension between providing planned scaffolding with digital technologies and the philosophies of child-centred, play-based learning. Across a number of studies we have used survey, interviews, diaries and video to examine children's use of technologies and their use in literacy learning. The findings suggest that children use a variety of technologies, often based around specific narratives. Children interact with the technologies and often illustrate literacy learning that their parents are unaware of. In contrast, teachers of primary school children do not trust that parents are providing suitable experiences and early childhood teachers recognise the value of the technology for their own planning and home-school connection purposes but are unsure of how to integrate it into teaching and learning with children accessing the tools themselves. Implications for practice include greater awareness of the role of popular culture in the drawing together of multiple literacy forms as well as a combination of teacher and child-directed practices in the early childhood education setting.

Introduction

Emergent literacy has been documented as developing through experiences such as having picture books read aloud and exposure to environmental print, that is, through experience of symbols on surfaces (e.g., McNaughton, 1995). We take the position that emergent literacy encompasses many facets such as narrative, vocabulary, knowledge of print conventions, print awareness, phonological awareness,

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syntactic awareness (Whitehurst & Lonigan, 1998), and that all of these components can be developed through a variety of media forms, including paper, digital media, television and play. This chapter describes research into children's interactions with, and learning from, print symbols on screens rather than symbols on paper or physical objects such as restaurant signs. Historically, widespread literacy was a consequence of the availability of printed documents; children's literacy was boosted by the advent of books for children and then the cheap picturebook (Nicholson, 2000). These comments are not to introduce a history of children's literacy, but to make the point that technologies impact on the literacy environments and contexts within which children live and what it means to be literate. In this chapter, we report on our investigations into the changing literacy environment for 4- and 5-year-olds in New Zealand.

Literacy Development and Digital Technologies at Home

In one study that examined how the access and use of digital technologies (including computers and television) influenced the receptive vocabulary of young children, Bittman, Rutherford, Brown, and Unsworth (2011) found that parental scaffolding of learning was important. They found that there was no specific influence of digital technologies on the vocabulary of very young children, and no influence of television (labelled as *old* media) on vocabulary. However, parental mediation in the contexts in which children watched television and used computers influenced vocabulary development positively. This was also the case for older children, with a positive relationship between computer use and print literacy abilities, except for those for whom computer use was dominated by game-console use.

O'Mara and Laidlaw (2011) investigated how out-of-school use of touchscreen technologies (iPads, iPods, tablets and gaming devices such as handheld Nintendo DS/DSi) changed older children's understandings of texts and literacies. At home children have relative freedom of usage in contrast to how any devices, particularly iPads and iPods, are used in school. They characterised children's home use as having uninterrupted time for exploration, following own interests, being governed by usual rules applying to other toys and materials, rarely being mediated by adults and sharing of texts and activities with other children.

The positive influence of parent mediated use of digital technologies for younger children is similar to the findings of Plowman, McPake, and Stephen (2008), who also found that parents would scaffold children's learning about digital technologies by modelling use of a digital tool, or by providing a demonstration. The parents did not realise that they were engaging in such scaffolding; instead, the parents attributed any learning to the children themselves. This guided interaction (Plowman et al., 2008) that parents provide takes the form of assisted performance (Gallimore & Tharp, 1990), within the child's zone of proximal development (Wertsch, 1993; Wertsch & Tulviste, 1992). Thus, we posit, when the technology is demonstrated and mediated by 'experts', there can be significant literacy learning for young children.

Literacy learning in homes that is guided by parents can take place through narratives that are based on characters that come from popular culture, including *Dora the Explorer* or *Handy Manny* or *My Little Pony* (e.g., Marsh et al., 2005; Marsh & Thompson, 2001). The interactions come from the relationships across modes that children can use, such as watching a television programme featuring popular culture characters, followed by reading a book featuring the same popular culture characters. The nature of those interactions, however, have changed since the initial work of Marsh (2006). Zevenbergen (2007) describes young children born into the current age as digital natives, while O'Mara and Laidlaw (2011) describe the "iWorld" that young children now inhabit. This "iWorld" means that children have the ability to interact and be producers of their literate lives at home through using modern digital devices to select what they want to watch for viewing but also for playing games based on popular culture. Such interactions allow children to develop literate knowledge that includes symbolic understanding, print knowledge and narrative within the 'third-space' that digital devices enable (Levy, 2008). This third-space means that children can make use of their popular culture and digital "funds of knowledge" (Moll, Amanti & Neff, 1992) to practice and learn literate skills which include alphabetic print literacy. When children lack the opportunities for working in the 'third-space' to develop literate knowledge they become especially reliant on being able to access the technology in the education system to ensure equal learning opportunities.

Digital Technologies at School

In early childhood education (ECE) centres, children's interactions with digital media and old media can be embraced and used to encourage literacy and language development (Hedges, 2011). These funds of knowledge are drawn upon for literacy and language development in more traditional ways within early childhood centres, such as through dramatic play, oral storytelling, and art. However, the realities for the majority of early childhood centres may not represent the ideal that Hedges suggests. When digital technologies are available within early childhood settings there is a tension, for teachers, between providing planned scaffolding with digital technologies and the philosophies of child-centered, play-based learning (Plowman & Stephen, 2007; Wolfe & Flewitt, 2010). Teachers may be unsure whether to let children freely use technology, as they would any play equipment, or if it should be managed and guided, mirroring the 'moral panic' over the use of digital technology for young children (Oldridge, 2010).

In primary school classrooms, there is also a tension which arises from the perception of the inclusion of digital technologies, or ICT (information communication technology), being technology integration rather than curriculum integration (Hutchison & Reinking, 2011). As a result, the integration of technologies into classrooms is regarded as requiring instruction in how to use the technology rather than integrating the technology as a part of curriculum instruction. Honan (2008),

for example, found that teachers of primary school students tended to teach the 'how to' of logging in and navigating computers, rather than using them for content learning. This occurred at each year level, meaning a child at one school could be given basic 'technology' instruction every school year. Teacher knowledge, or a lack of knowledge, of students' experiences of digital technologies, and of the technologies themselves, also influences the effectiveness of the use of such technologies in the classroom (Hutchison & Reinking, 2011). In another study Honan (2012) found that teachers did not know what students did with technologies at home. Similarly, we (Arrow & Finch, 2013) found a mismatch between teachers' understandings of children's at home experiences with television, computers, and other activities, and what children actually did. While at home, children are experiencing the technologies integrated into everyday activities; in educational settings the adults do not acknowledge, or perhaps do not know about, the funds of knowledge the children have.

In light of these findings, there is little research to identify what good teacher practice with digital technologies actually looks like, only suggestions on how to use it (e.g., Hutchison, Beschorner, & Schmidt-Crawford, 2012; Northrop & Killeen, 2013; Saine, 2012). There is some evidence that the use of iPads and tablets have a particularly motivational effect on learners who have ADHD or autism (Crowley, McLaughlin, & Kahn, 2013; Huang, Clark, & Wedel, 2013; McClanahan, Williams, Kennedy, & Tate, 2012), learning disabilities (Fernández-López, Rodríguez-Fórtiz, Rodríguez-Almendros, & Martínez-Segura, 2013), and for ESOL students (Billings & Mathison, 2012). There is also research on whether iPads improve reading comprehension, but there was no discernible effect of iPads (Connell, Bayliss, & Farmer, 2012), suggesting that there is nothing inherently beneficial in using iPads or tablets for reading material without interaction. This is supported by research indicating that the way students read on iPads or Kindles is no different to the way they read text on a page (Zambarbieri & Carniglia, 2012).

Jones and Brown's (2011) investigation into reading engagement noted that home literacy practices influenced reading engagement and reading achievement and that computer-based technologies are likely to shape children's view of literacy. Current developments point to electronic reading being a greater part of children's literary life in future. Jones and Brown (2011) compared third-grade student engagement with, enjoyment of and comprehension of, e-books (on electronic reader devices) and print books. They compared a whole class print book experience with similar group reading activity and comprehension testing with an e-book. Results showed no significant differences on any of the measures although choice of titles was motivational for both formats. The alignment of character, theme and setting with personal preferences was more important than format.

Jones and Brown (2011) refer to Kress' (2005) views on new dispositions to text where there are expectations of texts being multimodal and that many texts are not underpinned by authority and authorship so they can be redesigned by readers. Lankshear and Knobel (2003) characterise teachers' responses to new dispositions as 'old wine in new bottles'. They argue that once absorbed into classroom practice, technological tools tend to be 'domesticated' by practices that resist the transformative

affordances of the tools and which may even provide barriers to student engagement and practice. In 'exploratory classrooms' new dispositions are more accepted because teachers are not afraid of the openness and unfamiliar territory. This chapter reports investigations into the ways educators of young children deal with the challenge of what may be new and unfamiliar territory for them, but the foundations of young children's funds of knowledge.

The Studies

The remainder of this chapter discusses the main findings across three studies that utilised questionnaires, observations, parent diaries and interviews. We wanted to find out what the contemporary multi-modal literacy practices of young New Zealand children were, and how they are reflected in early childhood and early formal schooling experiences. As the focus of the work was on literacy practices we did not investigate children's more conventional literacy knowledge such as their ability to read or emergent literacy skills such as phonological awareness. What we were especially looking for the mismatches between childhood experiences of multiple modes of literacy at home and school. In particular we were looking at:

1. What home literacy practices and practices using digital technologies looked like and how these practices interacted with each other;
2. How aware teachers in ECE and beginning primary school settings were of the range of possibilities in literacy practices and digital technology practices;
3. The ways teachers made use of digital technologies, specifically as they were used for literacy learning; and
4. Teachers' beliefs about the integration of digital technologies into their teaching.

Study One The first study, some of which is reported in Arrow and Finch (2013), was a survey of parents of children who had just entered formal schooling, on their fifth birthday, and of the teacher from the child's classroom as the New Zealand school system enters children on their fifth-birthday rather than at the beginning of the school year. The surveys were distributed through the classroom teacher and were anonymous, but all the children were expected to be aged between 5 years and 5 years 6 months of age. Although anonymous, parents and teachers were asked to indicate if they were willing to participate in an interview, and to provide contact details if they were. As a result five teachers (3 from low SES schools and 2 from middle-to-high SES schools; all experienced female teachers) and twelve parents (6 from low SES and 6 from high SES) were interviewed. All interviews took the form of asking participants to elaborate on their responses to the survey. In this chapter we only refer to the teacher interview data.

Study Two The second, not yet published study comprises four case studies in which parents kept records of what children were doing when using digital tech-

nologies, watching television, or involved in other home literacy practices and they kept some record of what they talked about related to those elements. The children in the case studies were all aged between four-and-a-half and 5-years of age and all were girls. Three came from two-parent families and one came from a single-mother family. Two girls (all names are pseudonyms) from the two-parent families (Bella, Daisy) and the single-mother child (Anna) were the youngest in the family, each with an older sibling. One child was the older sibling (Caitlin), with a younger sister. No specific demographics were taken about the children.

Study Three The third, more recent and not yet published, study was an observation study of the use of digital technology, specifically iPads, in early childhood settings and in beginning school classrooms, followed up by interviews with teachers from those settings. The two early childhood settings had children from a range of socio-economic backgrounds. One centre, privately owned, catered for children from birth through to five and the other, run by a regional association, catered for children aged from three-and-a-half to 5-years of age. Both ran programmes that were based on a philosophy of learning through play and exploration rather than structured learning, which is consistent with the early childhood education curriculum, *Te Whāriki* (Ministry of Education, 1996). The private centre interview data consists of two teachers interviewed together; one was the teacher observed working with the children and one was the manager-owner. Five children, three girls and two boys, were observed in the private centre. The kindergarten interview data consists of three teachers interviewed together; one head teacher and two teachers, all of whom supervised all children during the observed sessions. A number of children were observed in the kindergarten, with no one child observed at all observation times. The two primary school beginning classrooms had children aged from 5-years through to five-and-a-half. One school catered to a medium-high socio-economic demographic, whose teacher is given the psuedonym "Karen" and one to a low socio-economic demographic, whose teacher is given the psuedonym "Joan". No specific demographics were taken from the children who were observed. Five children were observed in each school, including two girls in Karen's class and one girl in Joan's.

Analysis

The interview transcript data for Study 1 and 3, transcripts of the filmed observations in Study 2 as well as Study 2 parent interviews and diary entries, were coded. They were coded for type of interaction between child and screen, child-teacher-screen interactions, the availability for devices that children had, what devices and applications children used, adult concerns about devices, adult beliefs about their applicability for literacy and adult responses to child responses to technology use. The resulting coded data was examined for themes and interpreted in terms of each

of the research questions. Data from Study 2 were used only to examine home literacy practices.

Home Interactions in Digital Technologies and Literacies

All of the children in Study 2 were happy to use technologies, ranging from family desktop computers and laptops to iPads and smart phones. Other technologies included Leap Pads, iPod Touch devices, televisions and DVD players. In all four case studies the children received little help in navigating with any of the technologies. The use of a desktop or laptop computer did require more guidance which tended to be that of the parent or caregiver navigating to the programme the child wanted (e.g., internet access programme or e-book programme). Once children had assistance navigating to the programme they were able to continue on by themselves. The YouTube video sharing website (www.youtube.com) was commonly referenced by families and children were often left to navigate YouTube viewing for themselves, using the links that appear at the end of each YouTube clip. As one parent wrote when reporting on her daughter's use of YouTube:

> she identifies which programmes she wants by their pictures. She mostly watches cartoons (Parent diary, Anna, Study 2)

The use of digital tools such as smart phones, leap pads, and tablet type devices, were familiar to children, sometimes to the surprise of parents. The parents of Daisy in Study 2 recounted in the parent diary that Daisy was looking at the packaging of the audio player provided as part of the research. She noticed that it plugged into a computer (via the USB port to download the digital audio files) so had a look at the player itself. When her father asked her what it was she looked at the USB symbol and reported that it was a "memory stick", showing that she understood the meaning of a technological symbol.

Families also appeared to facilitate, or encourage the use of multiple modes of technology, including print, use of screens (television, computers and touch screens), audio and talk (Kalantsiz & Cope, 2012) when engaging alongside their children with technology and literacy. Children tended to watch YouTube clips related to areas of interest such as books, toys, or other movies. Children also watched YouTube clips related to areas of interest such as books, toys, or other movies. They did this in the same way that they would carry out imaginative play based on favourite movies or books, such as *Peter Pan* (parent diary, Caitlin, Study 2), or television programmes such as *Doc McStuffins* or *Sofia the First* (parent diary, Bella, Study 2).

The use of characters from popular culture was predominant in the parent diaries and clips of Study 2, across more than one mode, such as across both print books and television watching. Most children had characters who appeared frequently in their diaries across modes and imaginative or toy play. Anna integrated *My Little Pony* across modes and play; Bella integrated *Doc McStuffins* and *Sofia the First* television characters into imaginative play; Caitlin used *Angelina Ballerina* and

Dora the Explorer, while Daisy spent time integrating her viewing of *Charlie and the Chocolate Factory* into imaginative play. Children spent their days engaged in various activities including being read to, reading to themselves, playing with toys, doing craft activities and playing with siblings. These activities tended to be interactive activities, just as much of their technology use was interactive with parents and siblings using or discussing the activity as they played.

During the data collection period in Caitlin's home, for example, the story of *Peter Pan* was the subject of sustained interest, and which we examine further to elucidate the ways in which families use popular culture alongside learning. Prior to the start of the data collection Caitlin had been read a book version of *Peter Pan* that was not specified, but it was not the original text by J.M. Bary. One Sunday Caitlin integrated elements of the story of Peter Pan into multiple elements of her day (parent diary, Caitlin, Study 2). She spend some time doing craft work based on Peter Pan; this was done in front of the television while *Dora the Explorer* was on. The Dora television programme often has Dora ask a question of the audience followed by a silence in which children are able to respond to the television. Later that day Caitlin watched a movie version of *Peter Pan*, and her parent noted that Caitlin:

> Knew storyline already from reading book; enjoyed having familiarity with characters (Parent diary, Caitlin, Study 2)

Caitlin followed up this sustained interest later in the day when discussing her upcoming fifth birthday. She had proposed that she have a Peter Pan party and the family discussion revolved around who Caitlin believed should represent different Peter Pan characters, using the book she had been read as a prompt. Caitlin decided that her younger sister should be a pirate while she would be what appears to be a combination of Dora the Explorer and Peter Pan.

> [Caitlin is] going to be Dora. I'm going to jump into the ocean and climb up a rock. I don't have to jump in the ocean, I can fly (Video transcript, Caitlin, Study 2)

The family discussion continued over dinner, with the parent diary indicating that the discussion centered around which characters were family members' favourites and what parts of the story were favourite. These discussions appear to center around the generic storyline rather than any one version of the story or movie, indicating that Caitlin was able to reflect back on all versions and modes of story that were available. The interactions across modes showed that Caitlin was able to build her narrative understanding of the Peter Pan story and her understanding of characters from several variants.

Although children appeared to have rich experiences across technology, print, and play there were times that children were not interactive or dynamic in the way they used them. There were times for all children that they sat and watched a movie or television programme, with no talking or interaction. There were also times when they sat and read to themselves or listened to a parent read with no dynamic interactions. At other times children sat and played computer games without talking. Bella would spend periods of time playing various computer games on the *Friv.com*

website, including dressing doll characters. Caitlin would spend time alone listening to *Angelina Ballerina* CDs that were read-alouds of companion books.

On the face of these audio and video clips, and the parent diary observations, some of the low-interaction experiences would appear to be what we have classed as "baby-sitting" behaviours. That is, the parents have left the child to have quiet time while they are cooking dinner, working from home, or doing work around the house. However, our data shows that the children were learning during these activities. Bella, for example was learning how to use the symbols in the various games on the *Friv* website, as representations, much as words function, to carry out an action. Caitlin was reading along to the *Angelina Ballerina* CD with a matching book, and trying to match the print elements to the recorded audio on CD. When watching television or a movie in silence, the children were learning about different narratives. Parents were often surprised what their children had learned through these "baby-sitting" activities; for example, Caitlin's mother noted:

> (Caitlin) read along on some pages with words she either recognised or knew were coming. I asked "Do you know what the words are or do you remember?" She replied, "Um, it tells me and I try to keep up with it", exciting Mummy moment! (Parent diary, Caitlin, Study 2)

Educators' Knowledge of Children's Experiences

In some instances the early childhood education and primary school teachers knew that children were able to use the technology, but didn't appear to be aware of what they did on the technology at home. The primary school teachers tended to have beliefs about the technology children engaged with rather than having any detailed knowledge. One primary school teacher from Study 1 indicated that the children from her class would talk about playing *Xbox* or *Playstation* games, although she couldn't recall what games the children talked about, and she considered them inappropriate because *Xbox* games had "lots of fighting and shooting and things" (Teacher interview, low SES, Study 1). Joan, from Study 3 also indicated that the students had game consoles at home, but didn't know how many had devices of any kind at home. She did however also indicate that she thought most children knew about technology from home, through the access to phones and playing games as a treat activity. When a teacher was aware that some children used technology at home they didn't appear to consider what this might imply for the children when at school. One teacher who tended to use a range of computer programmes and had a class blog was vague about children's practices outside of school:

> Some of them have printed off pictures and coloured them in, and some of them talk about *KidPix* at home, so there's obviously some out there with programmes and also some reading ones (Teacher Interview, mid SES, Study 1)

The kindergarten teachers in Study 3 also appeared to be unclear about what the children may or may not know about technology, and less so about what they were learning or doing when they had access. They did refer to children coming to the

kindergarten and recommending applications that they had used at home, yet they also suggested that children used only non-educational applications when using tools at home.

> We haven't got any, what we call like, *Angry Birds* … Or any of those games that, that they would have at home that they just, you know, whatever those ones are (Teacher interview, Kindergarten, Study 3)

The early childhood education teachers in the private centre tended to be more familiar with the children's experiences, perhaps due to the very nature of private early childhood education centres where children spend much of their day, and where parents are more likely to spend time discussing their child with the teachers as caregivers as well as educators. They weren't always specific in their knowledge, acknowledging that children did spend time using smartphones and iPads at home. However, they were able to describe some instances of children using technology at home, such as:

> … he goes to his dad's phone and take a photo and puts it on his screen-saver, oh no on the iPad. Yeah, on the iPad and changes the screen saver all the time on the phone (Teacher interview, private ECE centre, Study 3)

Other references to technology use tended to refer to the use of the iPad in terms of the social practices involved, particularly for the kindergarten teachers in Study 3. For example, teachers queried whether they were able to "get a turn" at home due to the number of brothers or sisters they might have. They also described how there may be some children who do a lot of iPad use at home but not at the kindergarten. In this case they did not seem to be sure about which of the children attending the kindergarten might fit in this category.

Tensions and Challenges

The teachers in the private ECE centre in Study 3 keenly felt the tension between whether iPad use was seen by parents as an unnecessary toy, indicative of the negative values often given to the use of iPads, and whether they should be an inherent part of the tools available in the centre. This was indicated by their comparison of iPad use with sandpit play:

> … well you wouldn't stop a child from going into the sandpit … but then do we see that as more beneficial for their learning than the iPad; is it more social, are their more benefits from it …? (Teacher interview, private ECE centre, Study 3)

This was followed up, however, by a discussion over the social value of iPad use and interaction, such as having to use manners, rather than the cognitive learning value. As parents of young children themselves, the teachers were also concerned that iPad use could be isolating and that other parents would be concerned that it was similar to solo television watching that they may allow their children to do at home as a babysitting strategy. These teachers thought that parents put their children

into ECE to "play with friends and get ready for school" and that using iPads is not part of that.

> It's that juggle between parents wanting to have it as that special tool for keeping the kids quiet and getting them to sit while they do dinner … [between a treat and a learning tool] (Teacher interview, private ECE centre, Study 3)

In the private centre all observations were made in a quiet part of the centre where the children being observed were not interrupted by other children who wanted a turn. This reflected the usual practice in the centre of only making the iPads available for general child use during times when there were not many children, such as the beginning of the day and the end of the day. This reflected their concerns about such devices being used as a baby-sitter device for general use, as this was how they allowed their own children to use it. All other use of the iPads, such as for centre-wide inquiry learning (e.g., the body), was more guided by the adults.

The teachers in the kindergarten, in Study 3, did not articulate the possible tensions between the use of iPads as play or learning. They tended to regard iPad use as something that children were able to do in the centre at any time but that the teachers were not actively engaged with that use in terms of planning for it. Indeed, they were unsure if apps that had been installed from the previous year were still installed or if children had accidentally deleted them. The location of iPad use also reflected a lack of engagement of the teachers with the use of them; the allocated iPad use area was in a small alcove, blocked from general view by a wall divider. The teachers explained this choice of location as reducing competition for the devices by removing them from general view and as ensuring the devices were less likely to be damaged by being in a separate space. In the kindergarten there was little observed supervision of children when they were using iPads. The teachers did indicate in the later interview that when the researcher wasn't there they did check on children occasionally, and ask what they were doing but they would do that "just as a monitor, you know, yeah, just a side-sweep." This activity-based, not learning-based, view was reinforced by the teachers reflecting that they did not record any learning stories, the nationally recognised narrative assessment form used in ECE (Ministry of Education, 2005), on children's iPad use.

Another concern in the ECE settings, both in the private centre and in the kindergarten, was that it was believed that children would spend long periods of time on such devices. However, in the private centre half of the observed children grew restless and stopped using iPads in the provided setting after 20 min of use. No child was observed with extended interest beyond 40 min of use in either ECE setting. Teachers in the kindergarten indicated that they were planning to implement a timer system to ensure that all children who wanted a turn got one. In contrast, teachers appeared to want children to spend extended time reading books, and had no concerns that children could spend half an hour at a time on the swings outside.

The kindergarten teachers did discuss what some of the classroom settings were that children entered when they transitioned from kindergarten to the new entrant classroom. They identified that many children entered into classrooms where iPad

use occurred from their first day and that experience in using them contributed to a successful transition from one setting to the other. The use of iPads and the child experiences with them in the beginning classrooms we observed differed quite substantially from the experiences the ECE teachers provided children, yet the ECE teachers from both settings considered that they the interactions they provided with iPads provided a sufficient transition for the primary school classroom.

School use was characterised by teacher-directed practice which was explicitly described as learning. In each of the classes, iPads were part of rotation of learning activities during literacy time, so that access time was prescribed, in one room by a timer linked to the interactive whiteboard which displayed children's names and their activity for the next part of the session. In both cases the selection of apps for children to choose from was controlled by the teacher. The apps available during literacy time in Joan's class provided practice and reinforcement of letter names and letter combination sounds. In addition, Karen's class also had access, as part of their 'must do, trust you' rotation, to apps which allowed them to select letters to create and save words. This led to regular collaboration with peers about spelling, for example, of the peer's first name.

Uncertainties in Integrating Digital Technologies into Teaching and Learning

One of the recurring themes was that teachers had ideas of what to do with technology and what were good applications, websites, or computer software, but didn't always consider the purpose of the applications or software. One of the marked contrasts in Study 3 in the ECE settings was the difference between what the interviews told us and what was filmed in observations. Teachers in ECE described several instances where iPads were used to supplement ongoing activities, such as understanding the body as the result of one child breaking his arm. In this instance the teachers described finding an application that supported the learning of body parts alongside other practices such as bringing in a full size mannequin. The use of iPads to find recipes was also discussed and was observed in one instance. The teachers also discussed the use of iPads in the sense that they could be used to find information quickly, and doing that using Apple TV on a big television screen so the children could watch. Generally, however, the decision on application use and when iPads were used tended to be ad hoc and not planned for. It was seen as an "extra tool for learning" (Teacher interview, private ECE centre, study 3) but uses other than to find information on inquiry topics are not yet part of the repertoire of these teachers. The teachers in the private ECE centre were trying to decide what good practice might be at the time of the study.

> And so I guess we would try and pick something interest based … and maybe, you know, we haven't really decided, but maybe one literacy, one numeracy and one interest based or something like that. And they need repetition too, the same as reading books, they're going

> to learn more if they, but only a selection to choose from (Teacher interview, Private ECE centre, Study 3)

In the kindergarten the teachers were not fully aware what applications were on each iPad and this led to some children preferring a particular iPad because it had a specific application that the others did not. Generally maintenance of a platform of applications was not addressed, although in the private centre the teachers were in the process of considering which applications were best, and the current application preferred by children was loaded on all iPads. The kindergarten teachers were yet to start the process of planned-for use of iPads, with the majority of references to how children used iPads and what they gained from them, based on turn-taking and social conventions such as helping others.

When the kindergarten teachers mediated use, this tended to revolve around using e-books such as *Hairy McLary* and *Mrs Wishy Washy*. They had the most knowledge around these forms of iPad use, explaining how the application worked and describing how they used it with children, which included talking about emotions of characters. However, they also discussed what they viewed as the negatives of this use, such as not being able to turn the book around to test children's understanding of print orientation. Such negative views tended to reflect a lack of knowledge around how to use the technology for learning, such as, in this example, not knowing to lock the rotation of the screen. This lack of knowledge is encapsulated by one teacher:

> … to be fair, they'd probably be more competent with some of those games than me (Teacher interview, Kindergarten, Study 3)

The primary school teachers in Study 1 did not always know what children knew about technology from home but many of them were able to articulate how they integrated technology into the classroom programme. At the time of the study iPads were not widely used but all classes had computer access for students in the classroom and used a variety of software packages such as *PM Readers* for the computer for fluency, *ComicLife* for storytelling and the *Starfall* website for alphabet and phonic knowledge. When asked, several of the teachers interviewed were also aware of how they could use educational television such as *The Wiggles*, *Blues Clues* and *NumberJacks* to facilitate discussion and extend learning.

> I find that putting them with, you know, a programme that's very interactive, it's got music, it's just, it readily does engage them, yeah, so. And then they feel it does help their learning, yeah (Teacher interview, high SES, Study 1)

At the time of Study 3 iPads were more frequently used in primary school classrooms than computers were. In Joan's classroom it was expected that all children would use an iPad every day for reading, writing and for math. Joan ensured that children were able to use the applications that she wanted them to use, and not others, but utilising the guided access function on iPads. This function allows the administrator to choose the specific applications that can be used at any one time and for how long. The use of this type of function illustrates the planned for nature of the iPad use in this primary school classroom. In Joan's class iPads were used

across the day for the purpose of reinforcement and practice activities, such as alphabet and phonic knowledge applications. Although Joan planned for these for those purposes, she also recognised that there is a place for children to use the iPads in extended ways, such as producing pieces of writing or projects rather than static practice applications.

Although the apps used in the primary classrooms were attractively presented with some attributes of games and in some cases, game formats, it was clear to the children that they were expected to be 'learning' not 'playing' on the devices. In this way the teachers were confident in asserting the literacy learning value of having the devices as a primary justification of their place in the class programme. Both teachers saw the iPads as providing a form of 'extra adult attention' in providing literacy interactions, especially with apps which gave immediate feedback about a child's letter or letter-cluster sound identification.

Both primary teachers talked about their plans to use iPads even more for literacy learning by explaining their intention to scaffold the use of iPads in creating texts with next year's class. Joan was conscious that her students were able game players, through practice at home and with school apps, but would benefit from learning to use the iPads to link words and images, such as through language experience recounts. Karen had been able to teach those children who had been longer in her class how to create photo and audio records of their reading aloud. One of her students was observed copying her email address from print in the room so that he could send his latest saved project to her; this was a good illustration of the technology enabling purposeful writing. Both teachers were clear that iPad use was planned to fit in with the good practice of their other literacy activities.

Discussion

The series of studies outlined in this chapter have provided examples of how new technologies, and specifically digital technologies are prevalent in the lives, or as O'Mara and Laidlaw (2011) describe, the 'iWorld' of young children. Our research has found that children perceive them as much a part of their lives as television, books and outdoor play; over time so have the parents of these children. Although we would agree that there may be difficulties that arise from using the technologies over an extended period of time, the children from our research were experiencing technologies in bounded amounts of time much as they would any other activity. Often, popular culture characters linked all forms of play and literacy experiences, rather than the source of the activity (Marsh et al., 2005). The parents in our studies tended to seek out technology resources to supplement their child's popular culture interests but did so while also considering whether it might support their child's learning; they were enabling their children to use their 'funds of knowledge' (Moll et al., 1992) to practice and learn. Even, so, children still spent some downtime on non-directed activities in which they were still learning. Such activities, that some teachers called 'baby-sitting' are those in which children are still learning while

interacting less; they have the opportunity to draw together their existing knowledge with what they are experiencing, thus facilitating further, child-led learning.

Children's use of technology also illustrated new versions of environmental print reading in which they are learning to 'read' symbols such as the application buttons on a touch screen, and the sequences of command symbols to go through to get to what they wanted (Levy, 2008). For example, children would go through the search function on an application such as *YouTube*, even when unable to read or spell, to use the search memory and select from visual thumbnails presented there. This strategy showed understanding of the location and function of the search box and then visual recognition or prediction using thumbnails to achieve their aim. This level of meaning-making from symbols is an element of contemporary emergent literacy behaviour based on children's multimodal text use (Bearne, 2009).

The 'baby-sitter' role of technology was a theme that teachers referred to in some way throughout the studies, reflecting the 'moral panic' in which children are seen as passive users of the technology with the benefits of children using the technology not well articulated, as Oldridge (2010) also found with ECE teachers. Yet, such time can contribute to children's learning, facilitating practice in making use of symbols but also literate knowledge in the same ways that picturebooks and environmental print support emergent literacy (e.g., McNaughton, 1995). While the teachers in early childhood and primary school settings were aware of children's use of technology at home they did not know in any detail what that use was, in line with the findings of previous studies with older children (Honan, 2012).

There were distinctive differences in the use of iPads in the early childhood education centres and in the primary school classrooms in Study 3. The early childhood education settings reflected child-directed free play with less than robust thought given to what applications the children might be using on them. In the primary school settings however, 5-year olds are using iPads in teacher-directed situations, using applications that teachers have selected, for the purpose of literacy or writing or maths. Although there was some teacher-directed use in early childhood settings it tended to revolve around teachers modelling how to find information, such as recipes, but not the teacher-directed selection of, or purposeful use of, specific applications. In homes the use of digital technologies tended to be child-directed choice of application use but they are parent-directed in that parents are selecting the types of technologies or applications children use. Parents link selections to their child's interests in popular culture, enabling learning through the narratives available in popular culture, much as Marsh and Thompson (2001) did with the interactions between books and television. Within centres and schools the references to popular culture do not appear, perhaps because while teachers do appear to be aware of what those interests might be, it is often only in general terms, and those interests are not perceived as pedagogically relevant (see Arrow & Finch, 2013).

The differences in child-directed and teacher-directed use in ECE and primary school settings also illustrate the different stages of ICT competence in the Australian Department of Education, Science and Trainings (DEST) *Raising the Standards* report (2002). The ECE teachers described in this chapter tended to be at the minimum level of ICT competence, as providers of the technology, with guidance when

children needed it, but not did not plan to support learning with technology. The primary teachers sat at higher levels of competence; Joan's practices were developmental whereas Karen had more developed integration. Karen was at an innovator level, or as Lankshear and Knobel (2003) describe, 'exploratory,' as she considered what the children were learning in terms of the technology as well as the existing literacy curriculum.

These studies are limited in the ability to generalise too far outside of the contexts in which the research is conducted. One limitation is that the rate of technology changes rapidly and that technology that has been observed in use in some of the centres and schools has become outdated and replaced by newer technologies. For example, the primary schools in Study 1 primarily used desktop computers at the time of the study, but one of the teachers (pers. communication) and probably most, have moved to tablet computer use as they main technology. A second limitation is that the child participants were not assessed for their literacy levels, which may influence the nature of the interactions that we observed in Study 2 and 3. It may also have influenced the nature of parent responses in Study 1.

Conclusion

In conclusion, we argue that the children in this study were well established in the 'iWorld'. In homes, children's' iWorlds were utilised to bring together narratives from popular culture with parent-directed applications and activities on digital technologies. Although primary-school teachers did not utilise popular culture they did direct the types of interactions that children had, to integrate technology with literacy learning in the classroom. ECE teachers tended to use child-directed learning which appears to contribute to the fear that such technology was a 'baby-sitting' tool rather than something that can support literacy learning or learning generally.

Children in both homes and primary school settings were able to illustrate what they were learning, informally in homes and formally in the classroom. This can begin as simply as learning about the abstract nature of symbols as a step to literacy. We suggest that early childhood education also provides a setting in which children could engage in teacher-directed learning which would promote emergent literacy development through popular culture narratives in multiple forms across print and digital devices. Professional learning and development for teachers working with younger children is needed to support their integration of digital technologies in ways that are more teacher-directed or planned for to support learning. Finally, we suggest that further research be conducted to explore the specific literacy skills and abilities that children develop through their use of digital technologies in both parent-or-teacher-directed activities and child-directed activities.

References

Arrow, A. W., & Finch, B. T. (2013). Multimedia literacy practices in beginning classrooms and at home: The differences in practices and beliefs. *Literacy, 47*, 131–141.

Bearne, E. (2009). Multimodality, literacy and texts: Developing a discourse. *Journal of Early Childhood Literacy, 9*, 156–187. doi:10.1177/1468798409105585.

Billings, E., & Mathison, C. (2012). I Get to use an iPod in school? using technology-based advance organizers to support the academic success of English learners. *Journal of Science Education & Technology, 21*, 494–503. doi:10.1007/s10956-011-9341-0.

Bittman, M., Rutherford, L., Brown, J., & Unsworth, L. (2011). Digital natives? New and old media and children's outcomes. *Australian Journal of Education, 55*, 161–175.

Connell, C., Bayliss, L., & Farmer, W. (2012). Effects of eBook readers and tablet computers on reading comprehension. *International Journal of Instructional Media, 39*, 131–140.

Crowley, K., McLaughlin, T., & Kahn, R. (2013). Using direct instruction flashcards and reading racetracks to improve sight word recognition of two elementary students with Autism. *Journal of Developmental & Physical Disabilities, 25*, 297–311. doi:10.1007/s10882-012-9307-z.

Department of Education, Science and Training. (2002). *Raising the standards: A proposal for the development of an ICT competency framework for teachers*. Canberra, ACT: Commonwealth Department of Education, Science and Training.

Fernández-López, Á., Rodríguez-Fórtiz, M. J., Rodríguez-Almendros, M. L., & Martínez-Segura, M. J. (2013). Mobile learning technology based on iOS devices to support students with special education needs. *Computers & Education, 61*, 77–90. doi:10.1016/j.compedu.2012.09.014.

Gallimore, R., & Tharp, R. G. (1990). Teaching mind and society: A theory of education and schooling. In L. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 175–205). Cambridge, MA: Cambridge University Press.

Hedges, H. (2011). Rethinking Sponge Bob and Ninja Turtles: Popular culture as funds of knowledge for curriculum co-construction. *Australasian Journal of Early Childhood, 36*, 25–29.

Honan, E. (2008). Barriers to teachers using digital texts in literacy classrooms. *Literacy, 42*, 36–43. doi:10.1111/j.1467-9345.2008.00480.x.

Honan, E. (2012). 'A whole new literacy': Teachers' understanding of students' digital learning at home. *Australian Journal of Language & Literacy, 35*, 82–98.

Huang, S., Clark, N., & Wedel, W. (2013). Teaching tips: The use of an iPad to promote preschoolers' alphabet recognition and letter sound correspondence. *Practically Primary, 18*(1), 24–26.

Hutchison, A., Beschorner, B., & Schmidt-Crawford, D. (2012). Exploring the use of the iPad for literacy learning. *Reading Teacher, 66*, 15–23. doi:10.1002/TRTR.01090.

Hutchison, A., & Reinking, D. (2011). Teachers' perceptions of integrating information and communication technologies into literacy instruction: A national survey in the United States. *Reading Research Quarterly, 46*, 312–333. doi:10.1002/RRQ.002.

Jones, T., & Brown, C. (2011). Reading engagement: A comparison between e-books and traditional print books in an elementary classroom. *International Journal of Instructional Media, 4*(2), 5–22.

Kalantsiz, M., & Cope, B. (2012). *Literacies*. Port Melbourne, Australia: Cambridge University Press.

Kress, G. (2005). Gains and losses: New forms of texts, knowledge and learning. *Computers and Composition, 22*, 5–22.

Lankshear, C., & Knobel, M. (2003). *New literacies: Changing knowledge and classroom learning*. Buckingham, UK: Open University Press.

Levy, R. (2008). "Third spaces" are interesting places: applying "third space theory" to nursery-aged children's constructions of themselves as readers'. *Journal of Early Childhood Literacy, 8*, 43–66.

Marsh, J. (2006). Global, local/public, private: Young children's engagement in digital literacy practices in the home. In K. Pahl & J. Rowsell (Eds.), *Travel notes from the new literacy studies: Instances of practice*. Clevedon: Multilingual Matters.

Marsh, J., Brooks, G., Hughes, J., Ritchie, L., Roberts, S., & Wright, K. (2005). *Digital beginnings: Young children's use of popular culture, media and new technologies*. Sheffield, UK: Literacy Research Centre, University of Sheffield.

Marsh, J., & Thompson, P. (2001). Parental involvement in literacy development: using media texts. *Journal of Research in Reading, 24*, 266–278. doi:10.1111/1467-9817.00148.

McClanahan, B., Williams, K., Kennedy, E., & Tate, S. (2012). A breakthrough for Josh: How use of an iPad facilitated reading improvement. *TechTrends: Linking Research & Practice to Improve Learning, 56*(4), 20–28. doi:10.1007/s11528-012-0572-6.

McNaughton, S. (1995). *Patterns of emergent literacy*. Oxford, UK: Oxford University Press.

Ministry of Education. (1996). *Te Whāriki: Early childhood curriculum*. Wellington, New Zealand: Learning Media.

Ministry of Education. (2005). *Kei Tua o te pae. Assessment for learning: Early childhood exemplars*. Wellington, New Zealand: Learning Media.

Moll, L. C., Amanti, C., & Neff, D. (1992). Funds of knowledge for teaching: using a qualitative approach to connect homes and classrooms. *Theory Into Practice, 31*, 132–141. doi:10.1080/00405849209543534.

Nicholson, T. (2000). *Reading the writing on the wall*. Palmerston North, New Zealand: Dunmore Press.

Northrop, L., & Killeen, E. (2013). A framework for using iPads to build early literacy skills. *Reading Teacher, 66*, 531–537. doi:10.1002/TRTR.1155.

Oldridge, L. (2010). *Digital foundations: A study of perceptions and practices surrounding the use of ICT in ECE centres*. Doctoral thesis, Massey University, Palmerston North, New Zealand.

O'Mara, J., & Laidlaw, L. (2011). Living in the world: Two literacy researchers reflect on the changing texts and literacy practices of childhood. *English Teaching: Practice and Critique, 10*, 149–159.

Plowman, L., McPake, J., & Stephen, C. (2008). Just picking it up? Young children learning with technology at home. *Cambridge Journal of Education, 38*, 303–319. doi:10.1080/03057640802287564.

Plowman, L., & Stephen, C. (2007). Guided interaction in pre-school settings. *Journal of Computer Assisted Learning, 23*, 14–26. doi:10.1111/j.1365-2729.2007.00194.x.

Saine, P. (2012). iPods, iPads, and the SMARTBoard: Transforming literacy instruction and student learning. *New England Reading Association Journal, 47*(2), 74–79.

Wertsch, J. V. (1993). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.

Wertsch, J. V., & Tulviste, P. (1992). L. S. Vygotsky and contemporary developmental psychology. *Developmental Psychology, 28*, 548–557.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*, 848–872.

Wolfe, S., & Flewitt, R. (2010). New technologies, new multimodal literacy practices and young children's metacognitive development. *Cambridge Journal of Education, 40*, 387–399.

Zambarbieri, D., & Carniglia, E. (2012). Eye movement analysis of reading from computer displays, eReaders and printed books. *Ophthalmic & Physiological Optics, 32*(5), 390–396. doi:10.1111/j.1475-1313.2012.00930.x.

Zevenbergen, R. (2007). Digital natives come to preschool: Implications for early childhood practice. *Contemporary Issues in Early Childhood, 8*, 19–29. doi:10.2304/ciec.2007.8.1.19.

Chapter 13
Literacy, Technology and Early Years Education: Building Sustainable Practice

Karen McLean

Abstract The application of technology to the literacy context presents challenges for teachers in the early years of formal education. One way of thinking about technology may be to consider the intersection of theories of literacy learning and understandings of technology use in the practice of early years teachers. The research reported in this chapter adopted a narrative methodology to explore two teachers' literacy practices with technology in the early childhood context. The findings suggested that flexible approaches to the application of technology in early years literacy learning contexts could contribute to effective pedagogical practice.

Introduction

The changing literacy landscape has implications for the teaching of literacy in early years education contexts. As technology evolves, conceptions of literacy change to incorporate the influence of these technological advancements in our lives (Bruce, 1998; Durrant & Green, 2000). The changing landscape has informed contemporary views of literacy as situated social practice (Gee, 2004; Street, 2003) where digital technologies (referred to in this chapter as technologies or technology) contribute to new literacy practices to the extent that print literacy is no longer the dominant literacy (Kress, 2003).

This change is particularly important in the early years of education where young children's lives are increasingly technologised (Burnett & Merchant, 2013). To illustrate 'technologisation' in early childhood Burnett and Merchant use the example of babies' toys that have digital components and point out that this immersion in a digitised world begins before birth and continues throughout children's lives. When viewed in this way this technologisation has implications for the application of technology to the literacy context in the early years of education.

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This chapter provides insights into two early years teachers' literacy practices with technology in the early years classroom. The chapter begins by identifying the prevailing influences on early years teachers' practices. This is followed by a discussion of research that has informed contemporary understandings of children's meaning making with new technologies and subsequent implications for teacher practice. The study is then described in detail, including methodological considerations, findings and recommendations for supporting teachers to build sustainable practices for embracing technology in their literacy centred practice in the early years of education.

Influences on Early Years Teacher Practice

Three prevailing literacy discourses have been described as influencing teacher practice (Durrant & Green, 2000). These are functional, critical and socio-cultural literacy discourses. Functional literacy discourses emphasise skills and standards and are readily identified in early years learning environments through a focus on teaching reading and writing skills (Lankshear, Snyder, & Green, 2000). Critical literacy discourses are realised in practice through the deconstruction of texts and the examination of what is included and excluded from these texts (Snyder, 2008). Socio-cultural literacy discourses acknowledge the social and cultural influences on learning and can be identified when children's learning in the home and community is utilised for learning in formal education (Lankshear et al., 2000).

From a technology perspective Franklin (1992) describes two approaches to technology use in the classroom. The first of these, prescriptive technology, has an emphasis on mastering technology skills. The second, holistic technology, aligns with socio-cultural and critical literacy practices through a distinct focus on the process or *craft* of working with technology (Durrant & Green, 2000). It may be that a holistic technology and cultural-critical literacy nexus has the potential to lead to sustainable practices with technology for literacy because this nexus resonates strongly with contemporary views of literacy as social or communicative practice (Bigum & Green, 1992). It is this contention that provided the impetus for the study reported in this chapter.

A further influence on teacher practices with technology for literacy can be found in widespread international education reforms. Although curriculum reforms have largely resulted in an emphasis on the integration of technologies into the literacy curriculum, the practices associated with effective integration of technologies in the early years of formal education is highly contested (Honan, 2012; Plowman, McPake, & Stephen, 2010). Research by Plowman et al. (2010) suggests that parents do not share the concerns about technologies having a negative influence on children's childhood experiences that can be found in reports such as the 2010 Kaiser Foundation Report (Rideout, Foehr, & Roberts, 2010). Concerns continue to be raised however about the processes required to enable teachers to build sustainable practices with technologies for literacy (see for example Andrews, 2004;

Labbo, 2006). Such concerns are further fueled through education reforms that privilege the teaching and learning of print literacies through outcome standards and national testing (Logan, Press, & Sumsion, 2012; Yelland, 2011). Perhaps a better understanding of how children learn with technologies might assist teachers to make informed decisions about the use of technology for literacy in early years learning environments.

Other influences on teacher practices with technology include teacher confidence and competence, access to resources, time constraints and the crowded curriculum (Schamroth Abrams & Merchant, 2013). Although often seen as barriers to effective practice, research is beginning to indicate that when teachers are mindful of when and how they use technology in early years classrooms practice can be improved. In findings from a United Kingdom study O'Hara (2010) identified outcomes, which included the development of problem solving skills, higher levels of motivation to learn, perseverance, social skills and creativity associated with children's learning with technology in four early years classrooms. Such findings suggest that the role of the teacher and the employment of effective practices with technology for literacy learning may be pivotal in realising these outcomes.

Children's Learning with Technology in Home, School and ICT Communities

Andrews (2004) proposes that the educational establishment needs to recognise and value learning that occurs in three learning communities: the home, school and information and communication technology (ICT) communities. He argues that learning is meaningful when connections are made within and across these communities. However, research shows that there is a discontinuity between the literacy learning that occurs in schools and home learning communities (Burnett & Merchant, 2013), making connections difficult. One of the most significant studies to bring this issue to the forefront was the *Digital Beginnings* study (Marsh et al., 2005), which highlighted young children's immersion in technologies, media and popular culture outside of formal education. This same study also found that teachers were concerned that children spent too much time on these activities. These findings support claims that teachers require a better understanding of children's meaning making practices to actively embrace relevant approaches to technology in the early years of education.

Recent research has reported on literacy practices in home, school and ICT communities, including the online spaces utilised by young children (Wohlwend, 2013) such as Club Penguin™ (Marsh, 2011). This research draws attention to the multimodal meaning-making process described by Kress (2010), where social groups play a mediating role in ensuring that "practices, resources and technologies of communication respond at different rates, at different times, to social economic and technological developments" (p. 19). The research highlights the complexities

associated with meaning-making processes used in communicative practices and subsequent challenges that early years teachers face in embracing multimodalities associated with technology in the literacy context. The research in this complex space is contributing to an awareness of new literacy practices and how children engage in what Burnett and Merchant (2013) refer to as "meaning-making in technologically–enriched contexts" (p. 577). It is also a further indication of what teachers in the early years need to know about their young learners.

Contemporary views of literacy embrace expanded communicative practices and call for these to influence early years literacy pedagogy. Marsh (2004) described techno-literacy practices, as "those literacy practices and events… mediated by new technologies" (p. 52). She contended that the techno-literacy practices children used in the home environment, such as those involved with console games and media, should be valued in the classroom. The importance of utilising these techno-literacy practices for literacy learning extends on the idea of 'funds of knowledge' (Moll, Amanti, Neff, & Gonzalez, 1992) to include children's life experiences with technology (Marsh, 2010). Additionally indicated is a need for teachers to value these techno-literacy practices alongside emergent reading and writing practices (Marsh, 2004).

Other researchers draw upon the range of technologies that children have access to in the home environment to highlight the potential of young children's use of technologies to enhance learning. In one study McPake, Plowman, and Stephen (2013) reported on young children's experiences of everyday technologies available in home learning environments and found that technologies in the home such as televisions, mobile phones and digital cameras, stimulated communicative and creative activities in ways that complemented print literacy experiences. These findings support the case for imaginative and innovative approaches to technology in the early years of education that aim to expand the "communicative and creative repertoires" (McPake et al., 2013, p. 422).

Despite a prevailing focus on print literacy in early years literacy contexts, children demonstrate the use of technologies for communicative purposes in their play (Burnett & Merchant, 2013). Wohlwend's (2009) ethnographic research into children's literacy play in early childhood centres and primary schools showed how children incorporated the use of common communicative practices with technologies in their social play. These findings drew attention to a "divide between print literacy practices as individualistic product-orientated craft and new literacies as a co-constructed and collaboratively maintained participatory process" (Wohlwend, 2009, p. 131). Other studies have provided similar results around the use of technology as a collaborative and participatory process (see Marsh, 2006; Plowman & McPake, 2013) and highlight a need for the social and cultural "valued literacy practices" (Wohlwend, 2009, p. 137) that are part of children's everyday lives, to influence curriculum and pedagogy.

In the current educational climate the focus on literacy standards and outcomes has to some extent diverted attention away from the need to establish effective pedagogical practices with technology for literacy. However, research continues to highlight important pedagogical considerations in the changing literacy landscape.

For example, the work of Auld, Snyder, and Henderson (2012) on the use of mobile phones in Indigenous communities in Australia draws attention to the need for pedagogical approaches where meaningful connections with social use and technologies in the broader community are made. Such research continues to lay the foundations for early years teachers working within current reforms to implement a curriculum where print and digital, or old and new literacies are seamlessly interwoven (Labbo, 2006; McLean, 2013) or, as Burnett and Merchant (2013) attest, for technology to 'become invisible' in the literacy program.

Effective Literacy Learning Environments

Continuing technological advancement presents challenges in building effective literacy learning environments in early years teaching. Reinking (2010) contends that efforts to build sustainable literacy practices with technology should focus on identifying those literacy practices that are valued regardless of the technology used. In a study reporting on the multimodal interactions of twin girls Wolfe and Flewitt (2010) described scaffolding and modelling strategies used by a parent to support the twins learning with technology and noted that these strategies were rarely used in this way by staff in the early childhood centre. Given that scaffolding and modelling strategies are widely embraced in effective literacy teaching practice (Kennedy, 2013; Louden et al., 2005) it is concerning that their extension to practices with technology was not apparent in this study.

Early childhood research supports the need for collaborative interactions, scaffolding and modelling to extend to children's literacy learning with technology. In particular, Marsh's (2006) research into preschool children's work creating animations highlights the complex multimodal meaning making processes children use to create digital texts. This study draws attention to a need "to identify the nature of the scaffolding and adult support children need as they create multimodal and digital texts" (Marsh, 2006, p. 503) and in doing so challenges traditional approaches to teaching literacy in early years contexts.

Reported differences between children's literacy learning with technologies at home and in formal education contexts further challenges traditional pedagogical practices in the early years of education. McTavish (2014) used a sociocultural theoretical framework to examine the literacy practices of a year two child in school and out of school contexts. Findings indicated that the child in the study used the literacy she learned in school to engage in more complex multimodal and digital literacy practices in the home. It would seem that the "unidirectional pattern from school to home" (McTavish, 2014, p. 337) signals a need to step aside from debates about old basics and new basics (Labbo, 2006) and to think more about pedagogical approaches aimed at meaningful and relevant literacy learning within and across the learning communities of home, school and ICT (Andrews, 2004).

The following describes an intervention that aimed to address the issue of the transformation of pedagogical practices through working with two early years

teachers to examine their literacy practices with technology in the classroom. An innovative aspect of this research is that it explores teacher experiences in the very real context of daily classroom life where internal and external factors influence pedagogy and the environment itself shapes learning (McPake et al., 2013).

Theoretical Perspective

The research was positioned within contemporary understandings of pedagogical approaches to technology and literacy and was informed by sociocultural theory. A sociocultural perspective offered a way to think about the use of technologies in communicative practices. In particular, Vygotsky's (1978) work on the mediating role that adults play in children's learning and the use of cultural tools in communicative practices provided a way to think about the relationship between literacy centered practice and technologies in the practice of early years teachers. Sociocultural theory was also used in this research to understand how a child's cultural and social experiences contribute to learning through play (Wood, 2010), which extends to learning through play with technologies.

The Research Context

The research was carried out against the backdrop of a move to a national curriculum for compulsory schooling in Australia. The national curriculum has seen technology interwoven throughout all curriculum areas and the incorporation of range of digital and multimodal texts noted within and across the strands of *Language, Literature* and *Literacy* in the study of English (ACARA, 2013). At the time of the study many teachers were feeling pressured by standards based reforms and the roll out of national testing in Australian schools. In addition, this period marked a time of increasing interest in early childhood education and concerns among the early childhood community about a push down of primary curriculum into preschool contexts (Yelland, 2011). Despite these concerns the pervasive influence of play pedagogies in pre-school contexts remained and early primary education contexts continued to be influenced by explicit teaching pedagogies first introduced through CLASS and Early Years (Crevola & Hill, 2005). In both pre-school and school literacy learning contexts there was a prevailing emphasis on print literacy instruction and teachers were grappling to come to terms with the integration of technologies in the classroom (Hill, 2010).

The purpose of this research was to gain insights into teachers' practices with technology in the literacy context in the early years of education. It was informed by the overarching research question, 'What are teachers' experiences of technology in their literacy centred practice in the early years context?' In order to gain understanding of these experiences it was necessary to consider how teachers'

beliefs and understandings about technology and literacy influence their practice and to identify ways in which teachers interweave and mediate technology and literacy use by children in their early years classrooms.

Addressing the Research Question

In order to gain understanding of teachers' literacy practices with technology in the early years context a narrative methodology was employed. Narrative methodology was used because it enables interpretations and meaning to be generated from participant stories of their experiences (Connelly & Clandinin, 2006). This was important because it allowed for the cultural, historical, social and political dimensions of these experiences to be explored (Connelly & Clandinin, 2006) in ways that resonate with the sociocultural theoretical perspectives underpinning the research.

In this research a professional learning intervention was implemented to encourage teachers to actively engage in "educational conversations" (Fleet & Patterson, 2009, p. 13) about their practices with technology through the examination of their own practical beliefs and understandings about technology in their literacy centred practice. Coiro (2005) describes similar processes for working with teachers to ensure that teachers benefit through engaging at their point in need.

During the study two participant teachers designed and implemented literacy-technology learning experiences across two action-reflection cycles. Each cycle began with a planning session and in the initial planning session teachers determined the form of technology to be used in their program based on children's interests, experiences and access to technological resources. In choosing the form of technology to explore in the classroom teachers were also encouraged to take into consideration their own professional learning needs and confidence and competence with technology (Coiro, 2005). For example, one teacher chose to explore the use of the digital camera after a visit to the local art gallery where she observed the children's interest in exploring digital photography to express their ideas. The choice to use podcasting software by the second teacher stemmed directly from access to technology resources, a desire to develop confidence and competence with the program used and observations of the children's reactions to its use by older children in the school. In addition, these teachers were encouraged to focus on the one form of technology for the duration of the study in order to facilitate pedagogical development through sustained opportunities to examine practice over time (Lankshear et al., 2000).

The research question was explored in two separate early years learning environments. The first was a regional kindergarten (pre-school) in Victoria, Australia. An experienced early years teacher (pseudonym – Susie) planned for play-literacy learning experiences to be integrated across the curriculum. The main form of technology used with the twenty-seven children in her 4-year-old kindergarten group was digital photography. The second learning environment was Foundation (name given to the first year of primary/elementary school in Australia) in regional Victoria.

The teacher (pseudonym – Mollie) was teaching in an early years classroom for the first time in her career and she implemented a structured literacy program using the whole-part-whole structure typically reported in explicit teaching pedagogies (Crevola & Hill, 2005). The form of technology used with the twenty-three children in this classroom was podcasting software. The researcher was a participant-observer in each setting, observing and interviewing regularly. This enabled a relationship between the researcher and the two teachers that was integral to the process of mutual learning (Gunn & Løgstrup, 2014) throughout the duration of the research.

Case study was used as a tool for gathering stories from each learning environment. It provided a bounded system in which the narratives, descriptions, relationships and interpretations of learning episodes collected over the 6-month data collection period could be defined (Barone, 2011). In seeking to answer the research question multiple sources of data were used to provide rich description and to minimise researcher subjectivity. These included semi-structured interviews, participant learning story journals, work samples, photographic and video data, and researcher journal. Prior to the commencement of the research the researcher made weekly visits and spent time in each learning environment. This relationship was maintained when the research commenced and continued after the data collection period ceased. The regular contact with participants provided opportunity for careful observation and to check for distortion (Mertens, 2005) in the unfolding narrative.

In considering how teachers are supported to examine technology in their literacy centred practice the use of storytelling as a reflection tool was employed. These stories were documented throughout the cyclic process described earlier, using a learning story format. Building on Carr's (2001) strength based model the model was adapted to provide a format for use in this research as a tool for teachers to record critical incidents in their own and the children's learning. These incidents were recorded using a combination of digital photographic data and written documentation. Using Riessman's (2008) notion of 'photo voice' the photographs in these learning story journals (LSJs) enabled teachers to document critical incidents and use words to interpret these events in relation to time, sociality and place represented in the images. These LSJs formed the basis for critical engagement with the literacy-technology nexus in the early years and were used as a stimulus for critical reflection during mid-cycle and end of cycle interviews. Interviews were carried out the beginning and end of the data collection period, mid-way through and at the end of each cycle. In these interviews a semi-structured interview format was employed to enable underlying and emerging themes to be scrutinised during the interview process (Lichtman, 2006).

Multiple sources of data were analysed using thematic narrative analysis (Riessman, 2008). This required each piece of data, including oral, written and visual texts from individual stories, to be analysed and placed in the chronological narrative at the appropriate place in time for the sequence. The analytical process provided an interpretative context to compare and contrast unfolding understandings as they emerged in the text. The use of this approach further aimed to ensure that the teachers' experiences of technology in their literacy centred practice was accurately presented.

Teachers' Beliefs and Understandings About Technology and Literacy Practices

At the beginning and end of the study each teacher was interviewed about their literacy and technology beliefs and understandings that informed their practice. The initial interviews showed that both teachers had an interest in using technology in the classroom. Mollie described herself as a competent user of most forms of technology but with the introduction of the Macintosh platform in the school she recognised that she had more to learn. Susie described herself as a 'gadget girl' who was willing to explore new forms of technology through trial and error. The two teachers differed in their orientations towards technology use in the literacy context. Susie described children's literacy learning in terms of engaging in communicative practices and meaning making through play and Mollie described an orientation towards technology use in the literacy context as a tool for development of print literacy skills.

In their final interviews Susie and Mollie providing insights into their changing practices and areas for future focus. Susie described changes in the way that she thought about young children's literacy learning with technology. In particular her observations of the children's use of the digital camera for communicating ideas and emotions in ways other than in print had influenced her planning to expand opportunities for children to use technology in social and interactive ways. Susie further noted that the storied approach to reflecting on her practice contributed to her confidence in providing a convincing rationale for the use of technology in the kindergarten in a presentation to new families.

At the beginning of the study Mollie maintained an explicit print literacy focus in a 2-hour literacy block typical of many classrooms in Victoria, and her use of technology was contrived to fit within these parameters. By the end of the research she believed that she had moved to an inquiry model where technology was embedded throughout the learning process and its use was very much directed by the children. This also suggested a change in the way Mollie viewed her practice from gatekeeper of children's access to technology as a tool for print literacy to facilitator of children's learning where children's technology use was guided by "where the children were at and what was going on" (Final Interview, p. 12). Although Mollie maintained an emphasis on teaching print literacy skills this may be largely attributable to "reductive accountability trends" (Wohlwend, 2009, p. 136) linked to the wider literacy landscape. Despite these trends Mollie recognised a relationship between literacy and technology in her practice, which aligned more closely with contemporary views, where technology in children's literacy learning was "used for so many different purposes … for the same thing but in so many different ways" (Final Interview, p. 7).

Each teacher reported on a series of learning episodes within each cycle. These episodes were documented in the LSJs and discussed in interviews. The episodes sought to provide insight into the ways that Mollie and Susie interwove technology into their respective programs and in turn, mediated the children's experiences with

technology in the literacy context. Abridged illustrative examples from a selection of these learning episodes are described in the next section and are representative of consistent themes throughout the research. See McLean (2012) for unabridged versions.

Susie's Story of Literacy Practices with Technology in the Early Years Context

Susie introduced two digital cameras for the children to explore in their play. In her initial observations she noted that the children organised themselves to pose for photographs with one another. She described the children using language to explain, instruct, describe, negotiate and ask questions during their play with the digital camera and noted that "it was interesting to see how the children worked together not only to share the camera, but also to share the experience" (Susie, LSJ1). Susie observed that initially the children's interest was focussed upon operational aspects of the camera and in one example she documented how the children problem solved using trial and error to work "out that the orange that was appearing in their photos was due to their finger being over the lenses" (Susie, LSJ1).

The popularity of the camera became an issue as some children grew impatient waiting for a turn. Extending on the cooperative behaviours Susie had observed when the children organised themselves to pose for photographs she facilitated the problem solving process using the guiding question, "How do you think we can share the camera fairly?" (Susie, LSJ1). Susie's scaffolding of this discussion led the children to make a connection to an existing routine, which provided a solution through the use of a timer and waitlist.

Once the novelty of the digital cameras subsided Susie noticed how the children used the cameras for different communicative purposes. She documented examples of the children's use of cultural symbols such as the peace, thumbs up and stop signs in their photography. Some children also began to use the camera to take artistic images similar to those observed during an earlier art gallery visit (see Fig. 13.1).

Building on these observations Susie introduced a printer, additional memory cards and digital photo frame to the learning context. Susie described the importance of a scaffolded approach during this process as "knowing when to step back

Fig. 13.1 Artistic representations in photographs taken by the children

and let the children direct [their learning] and when … to scaffold and give ideas" (Interview 3, p. 3). In one example Susie described how a child's self-directed learning aroused similar interests in other children. In this example a child printed his photograph (Fig. 13.2) and asked Susie to scribe, "This is me trying not to have my photo taken. I put the bear in front of me while William took the photo" (Susie, LSJ1). He then shared his finished piece with other children, which led to further interest in this activity at the writing table.

The children's shift in interest in their play with the digital camera, from sharing images on the camera with friends to printing images and recording written messages to communicate their ideas, led to further literacy learning opportunities. Susie described her facilitation of a learning episode that involved the creation of a locker for a teddy that came out at 'snack time.' Following the children's interests, Suzy worked with the children to create a locker with a photograph and label for 'Snack Bear' that matched the labels on the children's own lockers.

Susie's approach to following the children's interests with the digital camera required her to modify her expectations. Initially she expected that the children "would print their photos off and then they'd like to write a story" (Interview 3, p. 1) but she found that they were "more interested in talking to each other about what's going on and what they are doing" (Interview 3, p. 1). Guided by this social aspect of the children's play with the digital cameras Susie incorporated further social and collaborative learning opportunities with the digital cameras into the program.

Susie's willingness to follow the children's interests with technology enabled her to identify new possibilities for extending on this learning. The approaches employed by Susie involved having the digital cameras readily available for the children to use in any aspect of their play in any area of the kindergarten. This enabled children to engage in multimodal learning and co-constructed meaning making processes. For example, Susie described the use of the digital camera by two children who used it as a storytelling device. The children photographed images of their pet rocks on holiday (Fig. 13.3) and used the viewing lens of the camera to share the story with others:

> Hamish and Sally had been busy making their pet rocks with me talking about all of the things their pets could do once they were dry. The next day I noticed that they were busy taking photos of their pet rocks. When they had finished they came over to share their story with me. Their pet rocks had been on holiday and they had holiday photos to show me! As

Fig. 13.2 Photograph of Joe hiding behind the bear

Fig. 13.3 Images used by Hamish and Sally in their storytelling

> they played back the photos on the camera they talked about how they had been swimming as well as shopping and had to be very careful in looking out for cars (photos were taken on a car track!). (Susie, LSJ2)

A parent's story about her child's drawing at home alerted Susie to the children's explorations of new literacy practices in the home. One parent described asking her child about the picture she had been drawing and the child responded by saying "It's not a picture. It is Annie.com." This was significant because it highlighted an extension of the child's explorations of "multimodal literacies of play" (Wohlwend, 2009, p. 136) that had been occurring in the classroom into the home.

Mollie's Story of Literacy Practices with Technology in the Early Years Context

The children in Mollie's Foundation classroom had access to eight Macintosh notebook computers with a range of standard programs including Garageband™ and iMovie™, two iPods™ and four digital cameras. At the time of the research the new school was under construction at a nearby site and was a source of interest for the children's learning.

At the beginning of the study Mollie observed the children talking about photographs they had taken during a recent excursion and she recognised an opportunity to extend on this interest through the use of podcasting software (Garageband™) to create e-books to share with the wider community. However, this activity did not meet with great success as many of the children struggled to complete the complex series of steps that were required with the software. In her reflections Mollie recognised a need to scaffold the operational aspects of the task through explicit teaching of the different steps involved and to introduce organisational procedures such as reducing the number of photographs that children had to choose from because "there were too many skills that needed teaching" (Mollie LSJ2) for all children to achieve success.

Mollie made a conscious decision to incorporate collaborative literacy learning opportunities with Garageband™ after she observed two children working together to record a story they had written. She noted that the children were using the playback tool to listen to their recording. This stimulated the children's discussion about fluency and expression, leading them to work on improving these skills. Having observed the children using the playback feature in this way prompted Mollie to consider other ways of incorporating this practice into the program.

Mollie extended this practice in a traditional 'share circle.' During the process of creating e-books the children prepared written drafts. Mollie introduced the option of recording the feedback provided during the 'share circle' for children to access at their point of need after the session. Mollie noted that a strength associated with recording the discussion in the 'share circle', was that it assisted children to reflect and think critically and constructively about their own and other children's authorial roles. In particular Mollie noted that initially this feedback was in relation to fluency and expression but the children eventually learned "to listen to what was actually happening in the story" (Mollie LSJ2) in order to help their peers solve the complication. An example of the feedback that was provided to a child by a peer on her narrative was, 'It doesn't really make sense because a ladybug wouldn't get married.' The success of the 'digital share circle' seemed to encourage children to engage in further literacy practice where they provided support to each other in a secretarial role, as they "became editors, not only for their own work but also for each others" (Final Interview, p. 5).

Like Susie, Mollie also noted that the introduction of Garageband™ for literacy learning challenged her to think about organisational aspects of her pedagogy, particularly in the beginning when the children's attention was mainly drawn to learning about the operational aspects of the software. One of the strategies Mollie employed to assist with this was Learning on the Go (LOG). This organisational approach enabled the children to have more control over the sequence that they completed literacy tasks, encouraged children to take responsibility for completing these tasks, and provided a solution to access issues associated with using the software. These organisational aspects also provided a stronger alignment with inquiry approaches similar to those described by Hill (2010) where the "pedagogy incorporated new technologies" (p. 324) and where children's interests drove the inquiry.

The use of pedagogical approaches to technology that encouraged children's development of independent literacy learning behaviours was apparent with the introduction of new software. Mollie observed that the children's varying levels of competence and competence with technology meant that leaders emerged who assisted others when problems arose and other children eventually learned through trial and error. These observations assisted Mollie to move from a product-orientated focus with technology to a process-orientated focus (Franklin, 1992) where "letting them [children] run with it … and letting them make mistakes rather than taking over too much with the technology" (Interview 4, p. 8) became part of her practice.

The importance of providing explicit instruction for some operational aspects became apparent early on when children did not save files correctly or were unsure

Fig. 13.4 Lifecycle planning template

how to complete the many individual steps in podcasting. Mollie noted the need to shift between a print and digital focus in her modelled and explicit teaching practices as the children moved between the two in their learning. This signalled a need for a flexible approach to using technology in the program. Mollie embraced a flexible approach through incorporating familiar print literacy scaffolding strategies into the technologically enriched environment. In one example Mollie incorporated a planning template (Fig. 13.4), for use with the technology and throughout the literacy learning process, and the use of text deconstruction strategies similar to those used for print based texts.

Mollie described a shift in her practice to encourage children's use of technology in collaborative and social ways. This included paired, small group and learning opportunities where the children were buddied with a senior student to work on more complex activities. One example of this is the children's creation of animations. In this learning episode children worked with senior buddies to create lifecycle animations. A planning template (Fig. 13.4) was used to model the lifecycle and draw attention to the 'loop' feature in the software program. Mollie modelled the process of design for the animation and when the children's attempts at putting their images together in the program to create the animation were unsuccessful she worked with them to deconstruct the digital text features of an example in ways that were similar to text deconstruction approaches used for traditional texts (Hill, 2012). Mollie employed scaffolding strategies, which may assist in identifying the nature of adult support through scaffolding (Marsh, 2006) needed for the creation of these digital texts. She further noted print and digital entwinement of literacies throughout this process and the children's unbridled enthusiasm to share the finished animations (Fig. 13.5) with others. Of particular interest to Mollie was the way that the children were able to reflect on their inquiry learning through this process rather than focusing on the operational aspects of the technology.

Technology in the Literacy Practice of Early Years Teachers

This study confirmed that it is possible for early years teachers to effectively integrate technology into their literacy centred practice in ways that may be sustainable over time. This may be achieved by providing teachers with opportunities to actively

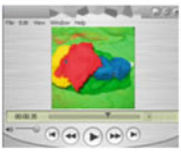
			
The life cycle of a butterfly. (Meg)	The butterfly lays the eggs... (Sam)	...so the caterpillar can be born (Sam)	Then it hatches little bit... (Meg)
			
...by little bit. (Meg)	Then it eats to grow and it sheds its skin. (Sam)	Then it goes in a cocoon. (Meg)	It builds a cocoon around itself very lazily. (Sam)
			
But before it does that it needs to attach itself to a branch. (Sam)	The caterpillar eats its way out... (Meg)	...and then it wiggles itself out. (Meg)	Then it turns into a butterfly with all sorts of colours... (Sam)
			
...blue, red, yellow and green, purple and orange. (Sam)	I learned that the butterfly has to split the cocoon. (Sam)	I learned that another name for a cocoon is a chrysalis. (Meg)	

Fig. 13.5 Screen captures and transcript from an animation

engage in the use of one form of technology for literacy learning for an extended period of time. As part of this process it would seem to be important for teachers to reflect on their observations of children's literacy learning with technology in order to identify new literacy learning opportunities that technology in the classroom provides. The research further indicates that the use of observational approaches such as a storied approach used in this research might assist teachers to reflect on their use of technology in the classroom. The reconceptualised version of the learning story (Carr, 2001) approach is suited to this process because it enables teachers to observe and document children's literacy learning with new technology and to reflect on their own role as a mediator of young children's experiences with technology for literacy learning. It also seemed to provide a catalyst for new and effective pedagogies through providing the teachers with a strength based lens to explore their own practices and children's literacy learning with technology.

Although the teachers involved in this research had very different experiences with technology in the early years they both provided "technologically-enriched contexts" (Burnett & Merchant, 2013, p. 577) for children's meaning making and exploration of communicative practices. This is significant because it highlights the potential benefits for children's literacy learning of a literacy-technology nexus in the practice of teachers regardless of experience or expertise. Through this research both teachers were able to describe in their practice new and effective pedagogical approaches for working with technology in the early years context. Inherent in their practice were collaborative approaches similar to those described by Wolfe and Flewitt (2010) where adults scaffolded the children's literacy learning with technology and Wohlwend (2009) through the co-construction of "interactive meanings" (p. 128). These findings support the contention that a social context for young children's engagement with technology can support children's literacy learning through an entwinement of print and digital literacy or communicative practices (Labbo, 2006).

The use of the one form of technology for the duration of the research also appeared to have significance for the children's literacy learning. Both teachers observed greater depth in the children's literacy learning with technology and described examples of children's development of independent learning behaviours over time. This would seem to indicate that there might be some benefits for children in a sustained focus through the opportunity it affords for children's interactions with technology in the classroom to extend beyond a novel interest and hence their work with technology to be reflected in their literacy development. Further research is required to determine if this sustained focus on technology in the literacy practice of early years teachers can facilitate children's learning to the extent that the complex uni-directional literacy practices such as those described by McTavish (2014) in the authentic and meaningful context of the home, may become bi-directional and commonplace in early years education environments. However, it would seem that it is through building sustainable teacher practices in this way that the potential for children's literacy learning within and across the home, school and ICT communities (Andrews, 2004) may be realised.

Conclusion

New technologies can create new literacy learning opportunities for children. The research that was the focus of this chapter showed how these new literacy learning opportunities can be realised in the early years classroom when children engage with technology in different ways for different purposes over an extended period of time. Similar findings have been reported in relation to children's technology use in the home where abundant opportunities for children to explore and practise with technology exist (McPake et al., 2013). This research highlighted that the use of the one form of technology may be important for supporting teachers to effectively integrate technology into their literacy practice. This is because the extended use of the one form of technology in the classroom enabled teachers to observe and reflect on children's engagement in rich communicative or literate practices (Reinking, 2010) of which traditional literacies are inherently a part (Burnett & Merchant, 2013; Labbo, 2006). It would seem that when teachers are provided opportunities to think about technology in their literacy-centred practice in ways that encourage children's engagement in rich, communicative practices the technology becomes invisible (Burnett & Merchant, 2013) through a seamless integration into the curriculum. In terms of addressing challenges associated with building sustainable and effective teacher practices with technology for literacy learning in the early years this research shows that teachers who employ flexible approaches to working with technologies in the classroom can create new and effective pedagogies to meet the challenges of teaching in contemporary classrooms.

References

Andrews, R. (2004). Where next in research on ICT and literacies? *English in Australia, 139*, 58–67.

Auld, G., Snyder, I., & Henderson, M. (2012). Using mobile phones as placed resources for literacy learning in a remote Indigenous community in Australia. *Language and Education, 26*(4), 279–296.

Australian Curriculum Assessment and Reporting Authority [ACARA]. (2013). *The Australian curriculum.* Retrieved October 20th, 2014, from http://www.australiancurriculum.edu.au/

Barone, D. M. (2011). Case study research. In N. K. Duke (Ed.), *Literacy research methodologies* (pp. 7–27). New York: Guilford Press.

Bigum, C., & Green, B. (1992). Technologizing literacy: The dark side of dreaming. *Discourse, 12*(2), 4–28.

Bruce, B. (1998). New literacies. *Journal of Adult and Adolescent Literacy, 29*(2), 289–309.

Burnett, C., & Merchant, G. (2013). Learning, literacies and new technologies: The current context and future possibilities. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (2nd ed., pp. 575–587). London: SAGE Publications Ltd.. doi:10.4135/9781446247518.

Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. London: Paul Chapman.

Coiro, J. (2005). Every teacher a Mrs Rumphis: Empowering teachers with effective professional development. In R. A. Karchmar, M. H. Mallette, J. Kara-Soteriou, & D. J. Leu (Eds.),

Innovative approaches to literacy education: Using the internet to support new literacies (pp. 199–219). Newark, DE: International Reading Association.
Connelly, F. M., & Clandinin, D. J. (2006). Narrative inquiry. In J. L. Green, G. Camilli, & P. B. Elmore (Eds.), *Handbook of complementary methods in education research* (pp. 477–487). Mahwah, NJ: Erlbaum.
Crevola, C. A., & Hill, P. W. (2005). *The children's literacy success strategy (CLaSS): A research report on the first six years of a large-scale reform initiative*. East Melbourne, Australia: Catholic Education Commission of Victoria (CECV).
Durrant, C., & Green, B. (2000). Literacy and the new technologies in school education: Meeting the l(IT)eracy challenge? *The Australian Journal of Language and Literacy, 23*(2), 89–108.
Fleet, A., & Patterson, C. (2009). A timescape. In S. Edwards & J. Nuttall (Eds.), *Professional learning in early childhood settings* (pp. 9–25). Rotterdam, The Netherlands: Sense Publishers.
Franklin, U. (1992). *The real world of technology*. Toronto, ON: House of Anansi Press Limited.
Gee, J. (2004). *Situated language and learning: A critique of traditional schooling*. London: Routledge.
Gunn, W., & Løgstrup, L. B. (2014). Participant observation, anthropology methodology and design anthropology research inquiry. *Arts and Humanities in Higher Education, 13*(4), 428–442.
Hill, S. (2010). The millennium generation: Teacher-researchers exploring new forms of literacy. *Journal of Early Childhood Literacy, 10*(3), 314–340.
Hill, S. (2012). *Developing early literacy: Assessment and teaching* (2nd ed.). Prahran, VIC: Eleanor Curtain Publishing.
Honan, E. (2012). 'A whole new literacy': Teachers' understanding of students' digital learning at home. *Australian Journal of Language and Literacy, 35*(1), 82–98.
Kennedy, E. (2013). Creating positive literacy learning environments in early childhood: Engaging classroom, creating lifelong readers, writers and thinkers. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (2nd ed., pp. 541–561). London: SAGE Publications Ltd.. doi:10.4135/9781446247518.
Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Oxon: Routledge.
Labbo, L. D. (2006). Literacy pedagogy and computer technologies: Toward solving the puzzle of current and future classroom practices. *Australian Journal of Language and Literacy, 29*(3), 199–209.
Lankshear, C., Snyder, I., & Green, B. (2000). *Teachers and technoliteracy: Managing literacy, technology and learning in Schools*. St Leonards, NSW: Allen and Unwin.
Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Thousand Oaks, CA: Sage.
Logan, H., Press, F., & Sumsion, J. (2012). The quality imperative: Tracing the rise of 'quality' in Australian early childhood education and care policy. *Australasian Journal of Early Childhood, 37*(3), 4–13.
Louden, W., Rohl, M., Barratt-Pugh, C., Brown, C., Cairney, T., Elderfield, J., et al. (2005). *In teachers' hands: Effective literacy teaching practices in the early years of schooling*. Mount Lawley, WA: Edith Cowan University.
Marsh, J. (2004). The techno-literacy practices of young children. *Journal of Early Childhood Research, 2*(1), 51–66.
Marsh, J. (2006). Emergent media literacy: Digital animation in early childhood. *Language and Education, 20*(6), 493–506.
Marsh, J. (2010). The relationship between home and school literacy practices. In D. Wyse, R. Andrews, & J. Hoffman (Eds.), *The Routledge international handbook of English, language and literacy teaching* (pp. 305–316). Oxfordshire, UK: Taylor and Francis.
Marsh, J. (2011). Young children's literacy practices in a virtual world: Establishing an online 'interaction order'. *Reading Research Quarterly, 46*(20), 101–118. doi:10.1598/RRQ.46.2.1.

Marsh, J., Brooks, G., Hughes, J., Ritchie, L., Roberts, S., & Wright, K. (2005). *Digital beginnings: Young children's use of popular culture, media and new technologies*. Sheffield, UK: University of Sheffield.

McLean, K. (2012). *A story of early years educators' experiences of technology and literacy in early years learning environments.* Unpublished doctoral dissertation, Australian Catholic University, Melbourne, Victoria.

McLean, K. (2013). Literacy and technology in the early years of education: Looking to the familiar to inform educator practice. *Australasian Journal of Early Childhood, 38*(4), 30–41.

McPake, J., Plowman, L., & Stephen, C. (2013). Preschool children creating and communicating with digital technologies in the home. *British Journal of Educational Technology, 43*(3), 421–431. doi:10.1111/j.1467-8535.2012.01323.x.

McTavish, M. (2014). 'I'll do it my own way!': A young child's appropriation and recontextualisation of school literacy practices in out-of-school spaces. *Journal of Early Childhood Literacy, 14*(3), 319–344.

Mertens, D. M. (2005). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (2nd ed.). Thousand Oaks, CA: Sage.

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice, 31*(2), 132–141.

O'Hara, M. (2010). Young children, learning and ICT. In C. Cable, L. Miller, & G. Goodliff (Eds.), *Literacy in the early years* (2nd ed., pp. 181–190). New York: Routledge.

Plowman, L., McPake, J., & Stephen, C. (2010). The technologisation of childhood? Young children and technology in the home. *Children and Society, 24*, 63–74.

Plowman, L., & McPake, J. (2013). Seven myths about young children and technology. *Childhood Education, 89*(1), 27–33.

Reinking, D. (2010). An outward, inward, and school-ward overview of interactive communication technologies across the literacy landscape. In D. Wyse, R. Andrews, & J. Hoffman (Eds.), *The routledge international handbook of English, language and literacy* (pp. 328–341). Oxen, UK: Routledge.

Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). *Generation M2: Media in the lives of 8–18 year olds. A Kaiser Family Foundation study*. California, CA: Henry J. Kaiser Family Foundation.

Riessman, C. K. (2008). *Narrative methods for the human sciences*. Thousand Oaks, CA: Sage.

Schamroth Abrams, S., & Merchant, G. (2013). The digital challenge. In K. Hall, T. Cremin, & B. Comber (Eds.), *International handbook of research on children's literacy, learning and culture* (1st ed., pp. 319–332). Place, NJ: Wiley.

Snyder, I. (2008). *The literacy wars: Why teaching children to read and write is a battleground in Australia*. Crows Nest, NSW: Allen & Unwin.

Street, B. (2003). What's new in new literacy studies? Critical approaches to literacy in theory and practice. *Current Issues in Comparative Education, 5*(2), 77–91.

Vygostky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wohlwend, K. E. (2009). Early adopters: Playing new literacies and pretending new technologies in print-centric classrooms. *Journal of Early Childhood Literacy, 9*(2), 117–140.

Wohlwend, K. E. (2013). Play, literacies and the converging cultures of childhood. In J. Larson & J. Marsh (Eds.), *The SAGE handbook of early childhood literacy* (2nd ed., pp. 80–96). London: SAGE Publications Ltd.. doi:10.4135/9781446247518.

Wolfe, S., & Flewitt, R. (2010). New technologies, new multimodal literacy practices and young children's metacognitive development. *Cambridge Journal of Education, 40*(4), 387–399.

Wood, E. (2010). Reconceptualising the play-pedagogy relationship. In L. Brooker & S. Edwards (Eds.), *Engaging play* (pp. 11–24). Maidenhead, UK: McGraw-Hill.

Yelland, N. (2011). Reconceptualising play and learning in the lives of young children. *The Australasian Journal of Language and Literacy, 36*(2), 4–12.

Chapter 14
The Future of Literacy Research in the Early Childhood Context

Alison W. Arrow and Claire J. McLachlan

Abstract This chapter concludes the volume and identifies the nature of research methods used, the key themes or commonalities in the research undertaken and any implications for the teaching and learning of literacy in the early childhood setting. In addition, this chapter will explore whether a research agenda for early literacy research can be identified from the chapters and other sources, which may be useful in guiding further research and identifying implications for policy.

Introduction

Literacy in the early childhood context is more than any one activity or any one theory. We conceptualised literacy as a complex socio-psycho-linguistic activity, which is shaped and influenced by a range of social literacy practices. The research presented in this volume has illustrated the act and process of learning to be literate across a range of theoretical viewpoints. The authors in this volume have used a number of theoretical frameworks and research methodologies to show that literacy is a complex activity in the early years and that playful, thoughtfully mediated, contexts can enhance the literacy learning of children. The drawing together of researchers from across the world is no accident; literacy development and all the skills abilities and dispositions that come together for literacy are international concerns. All authors in this volume share the same concern that young children from all backgrounds have the opportunities to learn.

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The contributors to this volume have used a range of research methods in the field of literacy in early childhood, ranging from the quasi-experimental approaches used by Aram, Elad-Orbach and Abirir and Manolitsis; the observation-interview approaches used by Finch and Arrow, McLean, and Alstad and Kulbrandstad; and the mixed methods approaches used by McLachlan and Arrow, Lyle and Bolt, Harris and Anderson and colleagues. The wide variety of methodological approaches will ensure that, for the future, we are able to examine the variety of sources of influence on literacy for children in the early years. The nature of that influence varies from pedagogical decision making in children's classrooms, the nature of literacy practices, language use, home literacy practices and school literacy practices.

The approaches articulated by the contributors sit within the theoretical frameworks identified in Chapter One of this volume: psycho-linguistic, social practice and Vygotskian-inspired cultural-historical theoretical approaches. Perhaps, quite tellingly, a number of the research studies reported in this volume make it clear that they do not sit within only one theoretical framework. The view of multi-literacies, for example, within social practice theoretical frameworks sits alongside research that is framed in cognitive psycho-linguistic theory, such as the work of de Baryshe and Gauci, McLachlan and Arrow or Evans and Reynolds. Aram et al. quite firmly position themselves within a Vygotskian framework, but articulate understanding literacy as a psycho-linguistic endeavour.

Literacy Development Is More than Formal Instruction

One of the underlying themes of the chapters in this volume is that literacy learning in the early years, both in early childhood education settings and in early, formal, schooling settings, can and does occur in naturalistic settings. In some cases this can be unexpected, such as Anderson, Anderson, Friedrich and Teichert's finding that parents in their bilingual family literacy programs were engaging in more literacy practices, particularly storybook reading, than anticipated. Both Evans and Reynolds and Aram et al. found that parents provide feedback that is child-focused, and active guidance that children need to learn about both reading and writing, within the home context. Finch and Arrow also found that parents provide active guidance in providing digital technology resources that are child-focused and based on child interests, in ways that support literacy development.

The authors in this volume who have illustrated that learning occurs in naturalistic settings have looked primarily at learning only within those natural settings. In contrast, Lyle and Bolt investigated the transition of more formal learning for writing to a more naturalistic writing curriculum in which no formal instruction took place. Instead, children were encouraged to participate in writing through developing narrative understandings first, through dramatic play, oral storytelling and telling stories through puppets. Following this phase children's stories were dictated and children encouraged to read those stories as well as begin writing their own. In these settings Lyle and Bolt found that children continued to develop their reading abilities along with their writing.

The Role of Adult Mediation

The provision of materials, resources, and activities are not, in and of themselves, sufficient agents of literacy and language learning. The consensus across all of the contributors in this volume is that adult mediation is an important component of literacy and language learning. Aram et al. found that adult mediation can closely model the principles described by Vygotsky, with the inclusion of child self-talk as a part of that process; while Evans and Reynolds found that how parents respond to children's reading attempts differs by level of shyness and can influence how shy children attempt unfamiliar text. Shy children were more often given terminal guidance when they were reading to parents, rather than supported to attempt a word. This can have a negative influence on later, independent reading, as the shy children have fewer strategies, as provided by parents, to attempt new words. Evans and Reynolds go on to suggest that this can also be the case when shy children are at school, possibly influencing later outcomes in literacy achievement.

Similarly, Harris found that how children experience adult mediation, or instruction, in the classroom influences how they understand what it means to read. In this case the children who were average achievers were receiving instruction that appeared to be solely about decoding, without being balanced by understanding the purpose of reading, in the meaning of text. In contrast, the good readers understood the paramount purpose of text, with how to get there, through decoding, and important but not singular component.

In early childhood settings many of the studies reported in this volume found that it is the knowledge of the adult mediator that can make a difference. Alstad and Kulbrandstad conclude that qualified teachers in early childhood can make a difference for second language learners as they transition into bilingual speakers. Their teacher, Heidi, was able to carefully and thoughtfully interweave children's first and second language competency into her teacher talk, extending and expanding the second language speaker's knowledge as well as her own and the language of other children. As Lyle and Bolt also found, it is the adult's value of what children have to say and can do that are important factors in successful adult mediation. Knowledge of the child and their home and cultural literacy practices and experiences are also important factor in early literacy teaching and learning.

The Value of Families

As argued in Chapter One and elsewhere (McLachlan et al., 2012) literacy is a social practice which has many forms and is practiced in culturally specific ways. Anderson et al. describe a family literacy program in which families for whom the language of schooling instruction is a second language. The series of family literacy programmes that they ran over time illustrate the importance of providing socially responsive programmes, as they not only supported the target children's learning,

but also the second language competency of the parents. One of their important findings was that although parents wanted their children to become proficient in English as fast as possible, they also valued the children's continued use of their home language. The bilingual nature of the family literacy program run by Anderson et al., meant that families could jointly become proficient in English, but also that they could be, and they were, flexible in their use of the material from the program.

Learning about language and literacy in the home environment is a not a neutral activity; parents actively socialise their children into the social and cultural life of the family (McLachlan et al., 2012). Families are a force for literacy learning and that this finding holds across social and cultural groups (Anderson & Morrison, 2011; Taylor & Dorsey-Gaines, 1988). Cairney (2003) argues research shows that the family's influence on children's learning does not stop at five when the child starts school. Instead, differences in family backgrounds have been found to be a significant predictor of school achievement and there are strong relationships between parents' knowledge, beliefs and interaction styles and children's school achievement. Because of this evidence, family involvement in children's education is widely recognised as a key component of effective education. Involvement includes parents, caregivers, siblings, and extended family such as grandparents (Taylor & Dorsey-Gaines, 1988).

Home literacy practices involve ambient, joint and personal activities which build situated expertise (McNaughton, 1995). The situated expertise may include the cognitive skills aspect of literate capital, but such capital built from home literacy practices may not match the institutional literacy practices of schools. The capital also includes the funds of knowledge children build up from their experiences in their homes. As Finch and Arrow found, many teachers have superficial knowledge of the digital technology use of children and the use of digital technologies in early childhood centres does not mirror the experiences of many young children. In contrast, it was found that primary school teachers, although not aware of child technology practices, were implementing use of digital technologies that matched some of the parent-directed digital technology practices that children are engaging home in the home settings.

The challenge for teachers is to create an appropriate literacy 'frame of reference' (Dyson, 1999, p. 142) which includes relevant material and practices drawing on the situated expertise of the children in their classrooms and help them feel comfortable that their identity is accepted. At the same time, teachers need to support children to develop the school literacy expertise that education systems demand. This is what the implementation of the Hakalama reading programme in the Pūnana Leo preschool in Hawai ʻi by Wilson and Kamanā has done by building on children's native Hawaiian or Hawaiian creole oral language abilities. This chapter offers important suggestions for how to both revitalise a language and ensure that children are able to become literate in both the home language and English. This is an important field of early literacy research in an increasingly multicultural and multilingual world.

Intentional Teaching, Teacher Knowledge, and Curriculum

Intentional teaching practices are also a theme of the research described in this research in which, as Hohepa and McNaughton (2007) argue, teachers can add to the home and add to the centre/school when they have understandings of the child and the literacy context of the home environment. The intentional teaching does not need to involve formal, or skill and drill worksheets; rather when teachers understand more about children's literacy development they can select activities and resources which help to strengthen children's understandings. This is illustrated in Alstad and Kulbrandstad's research in that second language learning can be facilitated in play settings by interacting and building on child interactions and interests, and occurs without necessarily drawing on a detailed, structured, curriculum.

McLachlan and Arrow and DeBaryse and Gauci also illustrate how literacy learning can be intentional but based on child needs. It is the teacher knowledge that counts. To develop teacher knowledge, it may be that a detailed, structured curriculum, which sits alongside professional learning programmes, is necessary to build teacher knowledge. DeBaryshe and Gauci found that the implementation of a research-based curriculum that included assessment of children and professional development and coaching of the teachers led to increases in child literacy outcomes over time. Yet, the teachers in the early childhood centre classrooms felt that children were motivated and engaged and DeBaryshe and Gauci conclude that structured curriculum for literacy can be implemented with teacher knowledge in ways that weren't detrimental, but were positive for children.

The understandings of what knowledge influences literacy development is still being investigated in young children, although it is generally well documented in children already learning to read in English (e.g., Arrow & Tunmer, 2012). One new field of research is the role of morphological development, particularly relevant for languages with a strong morphological component, such as English and Greek. Manolitsis embedded a programme of intentional oral morphological instruction into Greek kindergartens, before children formally learn how to read and write. In his two studies Manolitsis found that young children were able to develop morphological awareness and phonological awareness when implemented in a literacy curriculum that includes systematic exposure to skills including print concepts, phonological awareness and letter knowledge. As he suggests, teachers need to understand that morphological knowledge and awareness can be intentionally taught within a free play environment, if teachers are knowledgeable about to support children's learning.

The implementation of intentional teaching in contexts that don't have a structured curriculum, but rather a holistic approach to early childhood education was examined by McLachlan and Arrow. It was found that intentional teaching approaches, based on research-based evidence and the use of assessment data, can be successfully implemented in kindergartens. However, the success of the implementation depends on teacher beliefs and the partnerships that teachers build with parents and the providers of the research-based evidence. As with DeBaryshe and

Gauci, and Manolitsis, McLachlan and Arrow found modest effects on child outcomes at the end of the research. However, it may be that follow-up of these children find that there are bootstrapping effects of the literacy knowledge that young children gain from being taught skills based on psycho-linguistic research, as argued by Arrow and Tunmer (2012).

From the research in this volume it can be seen that the challenge for many teachers is the *what* and the *how* of teaching. The variable knowledge of teachers who are charged with teaching in the early years has been well documented across a number of contexts (Allington, 2010; Cunningham et al., 2004, 2009), with more recent research examining the *how* of teaching as well as the *what* (Spear-Swerling & Zibulsky, 2014), confirming the ideas proposed by neo-Vygotksians such as Elkonin (1978) and Zaporozhets (1978), which emphasised both literacy content in the curriculum and mediated approaches to pedagogy. Harris, in this volume, also illustrated the importance of thinking about how differentiated instruction is provided to children, as only the above average children in the groups observed and interviewed understood what reading was. The average to below average readers did not understand how the elements of their structured decoding or phonics instruction led to reading for a purpose, or for meaning.

Rogoff's (2014) recent notion of 'learning by observing and pitching in' (LOPI) suggests further ways in which researchers can examine how children learn about literacy in their homes, educational settings and communities. Rogoff argues that this multifaceted approach to learning, which appears to be especially prevalent in many Indigenous-heritage communities of the USA, Mexico, and Central America, and arguably in some communities and schools, offers useful alternatives in teaching and learning. Rogoff argues that LOPI contrasts with approaches to learning that involve adults attempting to control children's attention, motivation, and learning in Assembly-Line Instruction, which is typical of Western approaches to schooling.

In a similar fashion, Lyle and Bolt in this volume found that implementing Storytelling curriculum into a classroom of year 2 children led to continued reading and writing development. This was especially the case for children who were average or above achievers; the remaining received additional reading support. The Storytelling curriculum meant the children wrote for a purpose, and meaningful instruction and learning occurred while children participated in the act of writing in a community of writers

Second Language Learning and Literacy

One of the key challenges in the modern world is the complexity of second language learning when there may be children from many different language backgrounds attending schools where the language of instruction is not their own. Both Anderson et al. and Alstad and Kulbrandstad worked in settings in which the challenge was to build language and literacy competency in a language that was not the learners' first language. Both authors draw on Cummins (2009) work whereby

teachers are powerful agents of change in recognising the legitimacy of children's language and culture. As Cummins, Chow and Schecter (2006) argue, additive bilingualism underpins language learning, whereby second language learning builds on, and contributes to first language. By teachers recognising the value of a first language it legitimises the learning of those children and enables them to develop identities as learners alongside their peers.

Additional challenges occur in the inclusion of indigenous language and orthographies into the literacy instruction for young children. Wilson and Kamanā describe the unique challenge of implementing a Hawaiian written orthography into the American schooling system that has a curriculum that is solely in place for English language and orthography. In this case the politics of identity are tied into the educational politics of the No Child Left Behind Act (NCLB) passed by the United States Congress in 2001. In this context, legislation designed to improve educational outcomes for children from linguistic and cultural minorities does not recognise the value of additive bilingualism, in this case, from Hakalama to English. For students who speak Hawaiian or Hawaiian creole, being able to initially learn in a written orthography that is phonemically regular supports the learning of English, but in a way that values the students' culture and identity.

The 'New' New Literacies: The Future of Literacy Learning

The use of multiple forms of technology for literacy learning is not new but the reach of the new forms of digital technologies into children's lives is unprecedented. As Finch and Arrow discovered, for young children, new technologies are embedded in ways that mirror what Prensky and Zevenbergen describe for digital "natives" (Prensky, 2001a, 2001b; Zevenbergen, 2007). For the children in Finch and Arrow's research the use of the technology itself becomes invisible at home, much like McLean found it became for the early years teachers in her research. However, McLean did find that making the technology invisible was a process, and it was a process that the early childhood education teachers in Finch and Arrow's research had not yet been through; although the primary school teachers in their study did seem to have been through that process. The implementation of new technologies, which have since moved on from the earlier study described by Finch and Arrow, and those described by McLean, provide a new challenge to understanding literacy.

An Agenda for Further Research

Although it is clear that much progress has been made since the first use of the term emergent literacy to describe the literacy learning within the early years, there is still much more that we need to know. It would be most unusual if a volume such as

this on literacy research did not conclude with some suggestions of where the field needs to go in future years. We hope that the ideas that follow are not exhaustive, but do suggest some areas that need attention that students and researchers may pursue.

Arguably, the first issue was raised in the second chapter of this volume by Harris. Although the field of research has examined many aspects of children's literacy, we have few studies that examine what children think about the approaches to literacy that they experience in early childhood and primary setting. Future research could include children's voices in terms of their understanding of literacy learning and how this relates to their culture, home language and uses of literacy in the home environment.

Without doubt, further research is needed on examining additive models of bilingualism and children's experiences of literacy learning in two languages, as suggested by Anderson and his colleagues. Many of these chapters identify implications for family literacy programs. Factors to be researched include language, orthography, mediation strategies and the value of private speech. Using Rogoff's (2014) notion of 'learning by observing and pitching in' offers further possibilities in terms of investigating multiliteracies and bilingualism and multilingualism in homes and communities. In addition, further research on bilingual programs which value home languages and facilitate additive bilingualism are needed.

As many chapters have highlighted, further research on the relationship between teacher knowledge of literacy and literacy practices is needed. Intentional teaching of literacy can be implemented in early years curriculum in ways that are not detrimental to children and support children's needs to have time for socio-dramatic play and to experience literacy as a leading activity (Elkonin, 1977, 1978). We need to know more about how to support teacher knowledge that enables teachers to be reflective teachers, use differentiated instruction and mediation based on children's literacy strengths, needs interests and preferences, not one-size-fits all approaches. This could include further research into how teachers believe that children develop literacy, but also it might also include research on literacy skills that have not been considered appropriate by many early childhood teachers, such as morphological instruction. Research might also include further understanding children's personality traits such as the influence of shyness.

In addition, we believe this volume highlights the following potential research questions:

- What can children's voices tell us about their experiences of literacy learning in the early years?
- How can informal and formal learning settings promote linguistic competence of both children second language learners and their teachers?
- How does children's private speech support literacy learning?
- Can reflective teaching practices that encourage student voice, such as those in the Storytelling Curriculum, be encouraged in diverse settings?

- What is the changing nature of parent mediation in learning to read and write as children get older and how do personal traits such as shyness influence the type of mediation given?
- How does children's developing morphological awareness occur across languages?
- What are the long-term effects of intentional teaching based on psycho-linguistic research?
- How can digital technologies be integrated effectively into early years education settings?

Conclusion

The chapters in this volume stand as testament to the complexities of navigating both our modern, internationalised, global literate world, and to the value to which early literacy learning is held. The diversity and quality of the research being conducted in early literacy is also testament to how research has built on the early work of Dame Marie Clay (1966, 1982), Sulzby and Teale (1991), and Whitehurst and Lonigan (1998). The conceptualisation of emergent literacy as occurring in rich, diverse, literacy environments, with support from knowledgeable adults appears, from this volume, to be well entrenched. Moving forward researchers, academics, teachers, parents and policy makers need to consider what literacy is, the new ways of being literate, the child experience and the value of families and language to develop a modern curriculum that will meet the needs of all.

References

Allington, R. (2010). Recent federal education policy in the United States. In D. Wyse, R. Andrews, & J. V. Hoffman (Eds.), *The Routledge international handbook of English, language and literacy teaching* (pp. 496–507). New York: Routledge.

Anderson, J., & Morrison, F. (2011). Learning from and within immigrant and refugee families in a family literacy program. In P. Ruggiano Schmidt & A. M. Lazar (Eds.), *Practicing what we teach: How culturally responsive literacy classrooms make a difference* (pp. 130–140). New York: Teachers College Press.

Arrow, A. W., & Tunmer, W. E. (2012). Contemporary reading acquisition theory: The conceptual basis for differentiated reading instruction. In S. Suggate & E. Reese (Eds.), *Contemporary debates in childhood and education* (pp. 241–249). London: Routledge.

Cairney, T. (2003). Literacy within family life. In N. Hall, J. Larson, & J. Marsh (Eds.), *Handbook of early literacy* (pp. 85–98). London: Sage.

Clay, M. M. (1966). *Emergent reading behaviour*. Unpublished doctoral thesis, University of Auckland, Auckland, New Zealand.

Clay, M. (1982). *Observing young readers: Selected papers*. London: Heinemann.

Cummins, J. (2009). Pedagogies of choice: Challenging coercive relations of power in classrooms and communities. *International Journal of Bilingual Education and Bilingualism, 12*(3), 261–271. doi:10.1080/13670050903003751.

Cummins, J., Chow, P., & Schecter, S. R. (2006). Community as curriculum. *Language Arts, 83*, 297–307.

Cunningham, A. E., Perry, K. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia, 54*(1), 139–166.

Cunningham, A. E., Zibulsky, J., & Callahan, M. D. (2009). Starting small: Building preschool teacher knowledge that supports early literacy development. *Reading and Writing, 22*, 487–510.

Dyson, A. H. (1999). Transforming transfer: Unruly children, contrary texts, and the persistence of the pedagogical order. *Review of Research in Education, 24*, 143–173.

Elkonin, D. (1977). Toward the problem of stages in the mental development of the child. In M. Cole (Ed.), *Soviet developmental psychology* (pp. 538–563). White Plains, NY: M. E. Sharpe. (Original work published 1971).

Elkonin, D. (1978). *Psychologija igry [The psychology of play]*. Moscow: Pedagogika.

Hohepa, M., & McNaughton, S. (2007). Doing it "proper": The case of māori literacy. In L. Makin, C. Jones Diaz, & C. J. McLachlan (Eds.), *Literacies in early childhood: Changing views, challenging practice* (2nd ed., pp. 197–214). Marrickville, Australia: Elsevier.

McLachlan, C. J., Nicholson, T., Fielding-Barnsley, R., Mercer, L., & Ohi, S. (2012). *Literacy in early childhood and primary education: Issues, challenges and solutions*. Cambridge: Cambridge University Press.

McNaughton, S. (1995). *Patterns of emergent literacy*. Oxford, UK: Oxford University Press.

Prensky, M. (2001a). Digital natives, digital immigrants part 1. *On the Horizon, 9*, 1–6.

Prensky, M. (2001b). Digital natives, digital immigrants part 2: Do they really think differently? *On the Horizon, 9*, 1–6.

Rogoff, B. (2014). Learning by observing and pitching in to family and community endeavors: An orientation. *Human Development, 57*(2/3), 69–81.

Spear-Swerling, L., & Zibulsky, J. (2014). Making time for literacy: Teacher knowledge and time allocation in instructional planning. *Reading and Writing, 27*, 1353–1378.

Sulzby, E., & Teale, W. (1991). Emergent literacy. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 727–757). White Plains, NY: Longman.

Taylor, D., & Dorsey-Gaines, C. (1988). *Growing up literate: Learning form inner city families*. Portsmouth, NH: Heinemann.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*(3), 848–872.

Zaporozhets, A. V. (1978). *Printzip razvitiya v psichologii [Principle of development in psychology]*. Moscow: Pedagogika.

Zevenbergen, R. (2007). Digital natives come to preschool: Implications for early childhood practice. *Contemporary Issues in Early Childhood, 8*, 19–29.

About the Editors

Professor Claire J. McLachlan is Head of School, Te Hononga School of Curriculum and Pedagogy in the Faculty of Education at the University of Waikato in New Zealand. Claire's primary research interests are in early literacy, physical activity, early childhood curriculum, assessment and teachers' beliefs about practice. Her research has predominantly been on literacy in the early childhood setting using mixed methods research, exploring how teachers can be supported to promote literacy understandings in young children, building on the platform of research started with her PhD, which examined teachers' and parents' literacy beliefs and practices with kindergarten children. The main research problem has focused on the role of teachers in promoting children's literacy in the early childhood curriculum. An in-depth understanding of teachers' beliefs and practices concerning literacy offers insights into how to strengthen early childhood teaching and improve outcomes for children and identifies implications for policy and professional learning. Claire's research has drawn the attention of UNESCO, the NZ Ministry of Education, the Education Review Office and the Education Council of NZ, who have sought advice and guidance on literacy in the early childhood curriculum. She has a strong and growing international reputation. Claire has five recent books on curriculum, literacy, and assessment published by Cambridge University Press, Palgrave Macmillan and Elsevier. In 2012 Claire was awarded a Massey University Research Award for distinction in educational research, in 2014 she was appointed to the New Zealand Ministry of Education Early Childhood Research Policy Forum and in 2015 was invited to join the UNESCO Early Reading Panel. Recently, Claire was appointed as a member of the Ministry of Education writing team for the update and revision of the New Zealand early childhood curriculum, Te Whāriki, which is due for release later this year.

Dr Alison W. Arrow, **PhD**, is a senior lecturer in literacy at Massey University, having graduated from the University of Auckland in 2008. The central focus of Alison's research programme is literacy, primarily the cognitive development of it

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and the effective teaching of it. The research programme is built upon basic research into the cognitive components of literacy learning and building a theory of literacy learning. From the understandings of the cognitive components is a research examining teacher knowledge of the components and building models of professional development for providing that knowledge. One of Alison's research areas is professional development in literacy with early childhood education teachers. This research has included the assessment of literacy abilities with children as young as 3-years-old. She has published on the nature of literacy in early childhood and current research is looking at how young children use digital technology at home and school for their literacy learning. The research themes have come together in publications aimed at facilitating policy change and an invitation to join a Ministry of Education working party looking at dyslexia. Importantly it has led to the invitation to design and implement a 3-year $1.25m project for the Ministry of Education, to improve early literacy outcomes. Dr Arrow has won a number of internal Massey University research grants and in 2012 she was the Massey University College of Education Early Career Research Award Winner.

About the Authors

Ann Anderson is a professor in the Department of Curriculum and Pedagogy at the University of British Columbia. Her research and teaching are in mathematics education in the early years, parent mediation of young children's multi-literacies at home, and family literacy. Prior to joining UBC, she worked in the public school system as a classroom teacher. Ann's research includes working with families from diverse cultural backgrounds to understand ways in which young children's multiliteracies are supported prior to, and in the early years of school. Her research has been funded by the Social Sciences and Humanities Research Council of Canada; UBC Hampton fund; and the UBC HSS fund. She serves as a reviewer for numerous journals in early childhood education and mathematics education.

Jim Anderson is a professor in the Department of Language and Literacy Education at the University of British Columbia. Before joining UBC, he worked in the public school system as a classroom teacher, reading specialist, language arts consultant and assistant superintendent of curriculum and instruction. His research has been funded by the Social Sciences and Humanities Research Council and other agencies. In 2011, he received the Confederation of University Faculty Associations of British Columbia Academic of the Year Award for his work in community and family literacy. He serves on the editorial board of several journals and is a member of the Advisory Board of the Goodling Institute for Research in Family Literacy and the Literacy Research Panel of the International Literacy Association.

Gunhild Tomter Alstad is an Associate Professor in the Faculty of Education and Natural Sciences at Hedmark University of Applied Sciences, Norway. She received her PhD in linguistics from University of Oslo in 2014. Her dissertation focused on second language teaching practices in early childhood education. Her publications

include Andrespråk og flerspråklighet i barnehagen (Second Language and Multilingualism in Early Childhood Education). She is co-editor of NOA norsk som andrespråk (Norwegian as Second Language), the Norwegian journal of second language research. Her research interests involve child language, emergent literacy, multilingualism, teacher language awareness and second language teaching. She is currently engaged in research projects on professional development of early childhood educations teachers in linguistically diverse contexts.

Professor Dorit Aram is the head of the School Counseling Program in Tel Aviv University's School of Education, Israel. Her research focuses on adult-child literacy interactions and their implications for early literacy and socio-emotional development, in Hebrew and Arab communities. Addressing needs in special populations, her work examines these interactions in parent-child dyads of children with special needs and from low socioeconomic background. Professor Aram has conducted early interventions aimed at improving kindergarten and preschool teachers' as well as parents' mediation and children's early literacy and socio-emotional development.

Anna Bolt is a head teacher at Glyncollen Primary School in the United Kingdom and has a longstanding interest in literacy. She participated in the study described in this text with Sue Lyle and has previously studied at University of Trinity St. David's, with Sue Lyle as a supervisor.

Dr Barbara D. DeBaryshe is a faculty Specialist at the University of Hawai'i at Mānoa Center on the Family. Her research addresses early childhood literacy, professional development models for preschool teachers, family educational involvement, and social indicators of childhood wellbeing. Dr. DeBaryshe has received numerous grants including two Early Reading First awards. She also serves as an external evaluator for projects on early childhood health and the transition from foster care to independent living.

Shimrit Abiri has a master's degree in special education from Tel Aviv University's School of Education, Israel. Her research, together with Professor Aram focuses on adult-child literacy interactions and their implications for early literacy and socio-emotional development. Mrs. Duvdevany is Behavior Analysis and working with children with special needs and their parents.

Lili Elad-Orbach has a master's degree in special education and a Master's degree in counselling from Tel Aviv University's School of Education, Israel. Her research, together with Professor Aram focuses on adult-child literacy interactions and their implications for early literacy and socio-emotional development. Mrs. Orbach is working and teaching young children with special needs where she continues to apply interventions which came out from her thesis.

Kailey Pearl Ennis completed her Master's degree in clinical psychology, with an applied developmental emphasis, at the University of Guelph. Her interest in early literacy began during her Bachelor's degree. Through her work with Mary Ann Evans, her interest continued to evolve throughout her graduate education and became focused on the influence of temperament and parent-child interactions in

the development of language and literacy. She continues to use and develop her understanding of early literacy in her position as a Psychological Services Consultant for a large school board in Southwestern Ontario. Kailey is currently a supervised practice member of the College of Psychologists of Ontario and is working towards full registration as a Psychological Associate.

Mary Ann Evans graduated with her Ph.D. from the University of Waterloo in 1980. She is a Professor of Psychology at the University of Guelph and registered psychologist in the province of Ontario. She has received the Department of Psychology Teaching Award twice and the President's Distinguished Faculty Award in 2005, and is a Fellow of the Canadian Psychological Association. As a project leader in the Canadian Language and Literacy Research Network, and researcher funded by the Social Sciences and Humanities Research Council of Canada, her research with her graduate students has focused on home literacy experiences, emergent literacy, parent-child shared reading, alphabet books, and social, cognitive and linguistic aspects of children's. Her paper in the present volume blends her interest in literacy and shyness.

Dr Brian Finch has been a senior lecturer in literacy education at Massey University, New Zealand. He taught in urban and country primary schools before becoming an initial teacher literacy educator. His research focuses on children's learning and their understandings in the oral, written and visual modes of language. His doctorate focused on children's understandings resulting from repeated viewing of a feature film. He has published and presented at conferences in the UK, USA and Australia as well as in New Zealand. Recent studies have investigated children's literary understandings and the use of iPads in Early Years Centres and the first year in school. Research ideas are often generated by observing and interacting with his grandchildren; so far there has obligingly been a newborn every year or two to pose new questions as the technology context changes.

Nicola Friedrich is a PhD Candidate in the Department of Language and Literacy Education at the University of British Columbia. Her research interests are in early literacy and family literacy. She has worked as a Graduate Teaching Assistant and Research Assistant at the University of British Columbia and as a Teaching Assistant at the University of Colorado at Colorado Springs. Over the course of her program, Nicola has been a member of two research projects involving families from immigrant, refugee, and Aboriginal communities. She received funding for her doctoral research from the Social Sciences and Humanities Research Council. Prior to entering her doctoral program, Nicola worked as a classroom teacher, reading clinic teacher, and special subject tutor.

Kathleen Tran Gauci received her PhD in the Department of Educational Psychology at the University of Hawai'i at Mānoa. Her research interests include Vygotskian perspectives on enhancing teacher-child interactions and the use of place-based learning in preschool curriculum. She is also interested in how teachers' and children's connections, or their sense of place, play a role in instruction and learning.

Professor Pauline Harris is the Lillian de Lissa Research Chair, Early Childhood (Research) at the University of South Australia, in partnership with the South Australia Department for Education and Childhood Development. Professor Harris has an international reputation in early childhood research, with particular expertise in children's language, literacy and literature; children's voices, participation and citizenship; and matters related to the nexus of early childhood research, policy and practice. Professor Harris is the Director of the de Lissa Early Childhood and Family Studies Research Group; and among other roles is adviser and researcher in child friendly and children's voices initiatives and early years literacy initiatives.

Kauanoe Kamanā is Director of P-12 Laboratory School Programing at Ka Haka ʻUla O Keʻelikōlani College of Hawaiian Language at the University of Hawaiʻi at Hilo. She is also president of the ʻAha Pūnana Leo founded in 1983 to reestablish Hawaiian medium education beginning with preschools taught through the language. She and her husband, William H. Wilson, raised and educated their two children totally through Hawaiian from preschool at the Pūnana Leo O Hilo through to high school graduation at the College's laboratory school site Ke Kula ʻO Nāwahīokalaniʻōpuʻu. They have also worked closely together in establishing and expanding Hawaiian language medium education throughout Hawaiʻi. Kauanoe's primary research interests and expertise are in the development of contemporary Hawaiian schooling through a distinctive base in the indigenous language and its heritage.

Lise Iversen Kulbrandstad is a Professor of Norwegian at Hedmark University of Applied Sciences in Norway. Her main research interests are literacy, second language learning, and professional development of teachers in kindergarten and schools. She has published several books and articles; among them Lesing på et andrespråk (Reading in a Second Language, 1998), Lesing i utvikling (Reading Development, 2003) and Klasseromskulturer for språklæring (Classroom Cultures for language learning, 2008). She edited NORDAND, the Nordic journal of second language research 2006–2010, was rector of Hedmark University of Applied Sciences 2007–2015, and is now member of the Norwegian Minister of Education's expert group on teachers . As of 2015, she is a guest Professor at Karlstad University in Sweden. Her current research project is Encounter with texts in the 5th grade.

Dr Sue Lyle has been an educator for 42 years as a Classroom Teacher, Advisory Teacher for Language and Intercultural education, Curriculum Developer for both primary and secondary schools and for 20 years in Higher Education as a Teacher Educator. In this role she has trained primary and secondary school teachers and led Continuing Professional Development for practicing teachers. Retired from full time work at Swansea Metropolitan University she established Dialogue-Exchange, a consultancy to promote dialogic education and the rights of the child. Sue developed the Storytelling Curriculum approach to literacy development for 3–7 olds and is currently working with early childhood educators to develop a rights-based approach to equity in practice. Sue is a senior trainer in Philosophy for Children and an active researcher and writer.

George Manolitsis is an Associate Professor of Educational Psychology and Early Childhood at the University of Crete, Greece. He is also head of the Department of Preschool Education. He also served as a visiting Assistant Professor at the University of Cyprus and as an adjunct faculty member at the Open University of Cyprus and the Hellenic Open University. His research work is particularly concerned with early literacy learning, early predictors of literacy difficulties in primary school children, home literacy environment and cross-linguistic dimensions of literacy development. A primary area of his research focuses on the contribution of early metalinguistic skills to later literacy development and specifically on the relations between early morphological awareness with reading and spelling achievement. His research has been funded by grants from the Special Research Account at the University of Crete, the Social Sciences and Humanities Research Council of Canada, and the European Union Commission.

Dr Karen McLean is a Senior Lecturer in the Faculty of Education and Arts and member of the Learning Sciences Institute Australia at Australian Catholic University. Karen's research interests are focused on literacy and technology in the early years of education, including pedagogical approaches, play based learning and digital technologies. Her current work in playgroups investigates the role of playgroups in building community capacity and enhancing early years learning outcomes.

Laura Teichert is a PhD Candidate in the Department of Language and Literacy Education at the University of British Columbia. Her research interests are in early literacy, family literacy and digital literacy. Laura has worked as a Research Assistant in the Faculty of Education at the University of British Columbia and at Western University in London, Ontario. Prior to entering her doctoral program, Laura worked as an Early Literacy Specialist with the Ontario Early Years program and currently works as an enrichment teacher with a private education centre in Vancouver. For her doctoral dissertation, she is studying 4 and 5 year-old children's digital tool use as they transition into Kindergarten.

William H. Wilson is chair of the Academic Programs Division of Ka Haka ʻUla O Keʻelikōlani, the state of Hawaiʻi's Hawaiian language college at the University of Hawaiʻi at Hilo. Wilson has written the proposal for every program in the college from its initial B.A. and teacher education certificate through to its current Ph.D. Pila has also been instrumental in the development of Ka Haka ʻUla's P-12 Hawaiian medium laboratory school Ke Kula ʻO Nāwahīokalaniʻōpuʻu. Pila and and his wife, Kauanoe Kamanā, were among the first couples in Hawaiʻi to revitalize Hawaiian as the language of their home. Wilson sees his training in historical linguistics as providing him a distinctive base from which to serve the development of Hawaiian language medium education.

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