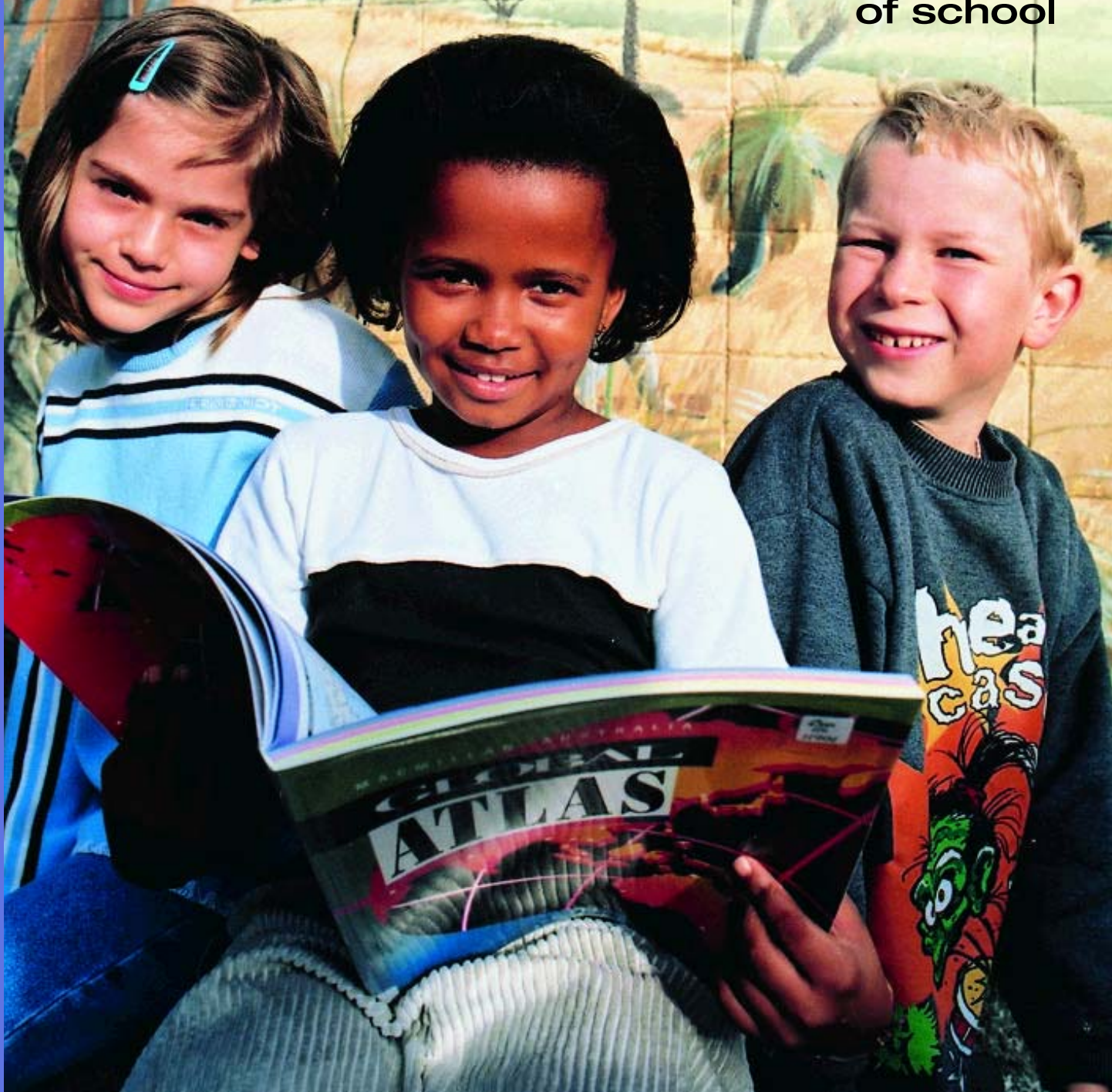


100 CHILDREN TURN 10

A longitudinal study of
literacy development from
the year prior to school
to the first four years
of school



A note to the reader

This two-volume report offers a longitudinal study of literacy learning from the year prior to school to the fourth year of school. The study, funded by the Australian Commonwealth Government, provides an extensive literature review of previous longitudinal studies of literacy development. It examines the measurable literacy outcomes for a corpus of one hundred children, and provides detailed case studies of a sample group of twenty children, chosen to represent a range of Australian contexts, including family financial resources, home language, ethnicity and geographic location and focusing on literacy learning in their lives, preschools, daycare centres and schools. Please note that pseudonyms are used for locations and named individuals to protect the privacy of all concerned.

The report comprises:

Volume 1: Project overview, major findings and recommendations, methodological issues, literature review, quantitative assessment and summary.

Volume 2: Site studies.

Copies of this report are available from:

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Griffith University
NATHAN QLD 4111
AUSTRALIA

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The views expressed herein do not necessarily represent the view of the Commonwealth Department of Education, Science and Training.

100 children turn 10

**A longitudinal study of literacy development
from the year prior to school to the first
four years of school**

This project was funded by the
Department of Education, Science and Training,
Commonwealth of Australia

Project undertaken by

Associate Professor Susan Hill
Associate Professor Barbara Comber
University of South Australia

Professor William Loudon
Associate Professor Judith Rivalland
Edith Cowan University

Dr Jo-Anne Reid
University of New England



**COMMONWEALTH
DEPARTMENT OF
EDUCATION
SCIENCE &
TRAINING**

Volume 1

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Project Team

Principal researchers and project management

Associate Professor Susan Hill, de Lissa Institute of Early Childhood & Family Studies,
University of South Australia.

Associate Professor Barbara Comber, Centre for Studies in Literacy, Policy and Learning Cultures,
University of South Australia.

Professor William Loudon, School of Education, Edith Cowan University.

Associate Professor Judith Rivalland, Faculty of Community Service, Education and Social
Sciences, Edith Cowan University.

Dr Jo-Anne Reid, School of Curriculum Studies, University of New England.

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Advisory Committee

Ms Stephanie Gunn, National Coordinator, Literacy Research Projects, Centre for Literacy Education
Research, Griffith University, Qld.

Ms Jill Ryan, National Coordinator, Literacy and Numeracy Research Projects, Centre for Literacy
Education Research, Griffith University, Qld.

Professor Bridie Raban, Mooroolbeek Chair of Early Childhood, Faculty of Education, University of
Melbourne, Victoria, Ministerial Representative.

Professor Peter Freebody, Faculty of Education, Mt. Gravatt Campus, Griffith University, Qld,
Ministerial Representative.

Ms Lyn Tonkin, School of Education, University of South Australia representing the Australian
Literacy Educators' Association.

Ms Maree Garrigan, representing the Australian Early Childhood Association.

Ms Glenda Strong, Department of Education, Employment and Training, Victoria.

Ms Di Rees, Department of Education, WA.

Ms Rosemary Cahill, Senior Curriculum Officer, Literacy, Department of Education, Western
Australia.

Ms Gerry Mulhearn, Curriculum Superintendent, Early Years Strategy, Department of Education,
Training and Employment, SA.

Ms Marion Meiers, LLANS Liaison, Australian Council for Educational Research, Victoria.

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100 Children Turn 10

1. Executive Summary

This executive summary consists of the project overview for *100 children turn 10: A longitudinal study of literacy development from the year prior to school to the first four years of school*, and a summary and discussion of the major findings of the study.

Project overview

The project *100 children turn 10* investigated children's literacy development in the year prior to school to the fourth year of formal schooling.

Researchers conducted the longitudinal project in South Australia, Western Australia and Victoria and it was funded by the Commonwealth Department of Education, Science and Training (DEST) through the Children's Literacy National Projects Programme.

The study took place in five geographically and socio-economically diverse research sites in three States. The first school site was The Wattles, situated in a low socio-economic area in the northern suburbs of Adelaide. Riverside, an inner urban school site in South Australia, was chosen because of its cultural diversity from post second world war immigrants and more recent arrivals from 28 different countries. The site known as Gibbs Crossing was a remote Aboriginal community on the edge of the Western desert in Western Australia. The Hillview school site was situated in an economically advantaged, well-established suburb in Perth. The Sweetwater school site was a suburban area in a large Victorian regional centre with a predominantly Anglo-Celtic school population.

The two-volume report of the project contains an analysis of quantitative assessment data and qualitative case studies of children in diverse socio-cultural contexts. The report does not claim to be nationally representative but rather is intended to provide a means by which educators, policy makers, politicians, administrators and other community members can understand more clearly children's literacy development from prior to school to the fourth year of schooling.

The project *100 children turn 10* was an extension of an earlier National Children's Literacy Project, *100 children go to school*, which was funded by the Department of Education, Science and Training (DEST, formerly DEETYA) in 1996-98.

The longitudinal study had three phases:

- Phase one explored links between children's home circumstances and their prior-to-school and first year of school circumstances, and continuities and discontinuities in these links on literacy performance in the first year of schooling in 1996-1997. Phase one was documented in the 1998 report *100 children go to school*.
- Phase two included a round of assessment tasks carried out towards the end of the second year of schooling using the same assessment tasks as in 1996 and 1997. Only quantitative assessment data were collected in 1998.

- Phase three involved the collection of both quantitative assessment data and qualitative case study data from the children's homes and schools in 1999 and 2000.

A feature of this study is the use of multiple research perspectives to examine the literacy trajectories of children during the time-span covering the year prior to school to the fourth year of school.

Aims and objectives

The aim of the project *100 children turn 10* was to explore children's literacy development over a five-year period in a range of Australian contexts.

Objectives for the project were the production of:

1. a brief literature review of research into literacy development in the preschool and the first four years of school with a focus on diverse communities and home and school connections, written with an emphasis on the implications of the research reviewed for classroom practice (see Vol. 1, pp. 27-58)
2. a longitudinal record of the measurable literacy outcomes in 12 domains (such as phonemic awareness, sight words, book levels and writing) of the sample group's educational experiences from the year prior to school to the fourth year of school (see Vol. 1, pp. 59-77 for discussion of these literacy domains)
3. a set of longitudinal qualitative case studies of the literacy development of 20 focus children within five different cultural and socio-economic research sites (see Vol. 2).

There have been several outcomes of this project.

Outcomes

The following research outcomes were produced:

- an executive summary (Volume 1)
- a review of theoretical frameworks underpinning recent literacy research (Volume 1)
- a review of longitudinal research into literacy development (Volume 1)
- implications for teaching based on the review of research (Volume 1)
- an analysis of measurable literacy outcomes over five years for a sample group of children (Volume 1)
- an analysis of current practices over five years in five research sites including:
 - the differences in literacy development for early and late starters
 - what counts as success in literacy in different sites
 - school and community expectations of literacy
 - teaching that makes a difference
 - which children get which literacies? (Volume 1)
- a set of qualitative case studies describing the experiences of children from prior to school to the first four years of school representing a wide range of urban, rural and remote

locations in three Australian States, and families from a wide range of ethnic, linguistic and social circumstances (Volume 2).

Organisation of the report

The report comprises two volumes.

Volume 1 has five chapters: Chapter 1 is the executive summary; Chapter 2 is a discussion of methodological issues; Chapter 3 includes the literature review; Chapter 4 contains the analysis of measurable outcomes of the larger sample and individual case study children's literacy trajectories; and Chapter 5 considers what the project tells us about literacy development for a selected sample of children from the year prior to school to the first four years of formal schooling.

Volume 2 comprises the in-depth case studies of focus children in each research site over a five-year period.

Major findings

The major findings from this research have been grouped here under **four key findings**: the nature of the children's literacy achievement over time; the differences between children's patterns of growth and pathways towards the achievement of school literacy; the relationship between the literacy practices of home and school; and the classroom and teaching practices that were observed to make a difference to the literacy development of the children we have studied.

Each of the major findings has implications for curriculum, policy and practice in Australian schools. They challenge some of the accepted understandings of development in literacy, and provide educators with a sound research basis for reconsidering both the role and function of assessment in early childhood literacy education, and the nature and organisation of the early childhood and primary literacy curriculum. Each of the major findings is based on the discussion of the research in Volume 1 and Volume 2.

The case studies in Volume 2 provide a longitudinal qualitative account of the literacy development of 20 focus children across five different cultural and socio-economic research sites. The case studies trace each child's literacy development from the year prior to school through to the fourth year of school. Readers interested in understanding the literacy outcomes for individual children should refer to the site studies in Volume 2 of the published report.

Volume 1 of this report begins with two chapters which provide summaries and analyses of the research. The literature review in Chapter 3, *Literacy as a site of child development: Research agenda and classroom practice*, examines the theoretical underpinnings of literacy development, explores the findings from a range of longitudinal literacy research projects, and highlights implications for teaching that have been raised in the research literature. Chapter 4, *Almost ten, what then?*, provides a quantitative analysis of the literacy outcomes over a five-year period from 1996 and 2000 for the larger cohort of children and also provides a discussion of individual children's literacy trajectories. Chapter 5, *Which children get which literacies?*, is an analysis and discussion of the full case studies.

These major findings and discussion are a summary of the research conducted during 1996-2000.

1. Most children made substantial growth in literacy

The research study *100 children turn 10* followed different children's literacy trajectories from preschool through the first four years of school and found there was substantial growth in literacy for most children. By their fourth year of school, most children were able to read elaborated episodes, extended descriptions and literary and technical vocabulary. Most children were able to produce extended written texts with a sense of purpose and audience, text organisation, sentence control, subject matter, vocabulary, punctuation and handwriting at or above the national writing benchmark for Year 3.

Our analysis of literacy assessment data over the years 1996-2000 (Vol 1, Chapter 4) indicates that after four years of primary school, most children had made significant progress towards mastery of a range of elaborated literacy practices, and all had extended substantially the repertoire of literate practices they were able to engage in successfully. However, within this general picture of growth, two key features were apparent. First the progress demonstrated through literacy assessment cannot be generalised across groups: there was a broad *range* of performance on various domains of literacy among children at each site.

Second those children who are not achieving are overwhelmingly from schools serving families living in poverty.

- **There was a broad range of performance on various literacy domains**

By the time children in this study completed their fourth year of formal schooling, there was a very broad range of literacy performance evident in their assessment results. Of this sample group, approximately 15 per cent did not demonstrate the ability to operate the codes of reading and writing at a level deemed acceptable by national benchmarks. However, these results were not consistent across the various domains of literacy assessed. For instance in 2000, the children's performance in spelling ranged from a spelling age of 6.4 years to more than 15.5 years. About 30 per cent of children recorded a spelling age below the approximate mean chronological age of the group. In practical terms this meant that after four years of primary schooling, some children were still struggling with the decoding skills that most of their age peers had mastered in the first few years of schooling.

- **Those children not achieving are overwhelmingly from schools serving families living in poverty**

As the case studies in Volume 2 show, the lowest performing children were overwhelmingly located in schools serving families living in poverty. While these schools also contained some children who were able to demonstrate high achievement, and there were some children in all five research sites who did not perform well on our assessment tasks, the relationship between family poverty and lower levels of achievement in school literacy remains problematic. Alleviating lower levels of literacy performance for children living in poverty remains a major educational and social challenge for governments and educators.

2. Children take different pathways and have different patterns of growth in literacy development

The detailed case studies of focus children revealed that children's literacy development was not always predictable, linear and sequential. At least one focus child's later high reading performance could not have been predicted from early literacy assessment. One focus child's later relatively low reading performance could not have been predicted. Some focus children achieved high letter knowledge scores in 1996, and superior reading and spelling scores five years later. Other children achieved a reasonable letter knowledge score in 1996 but five years later achieved at only a little above the 25th percentile reading assessment. Another child who was identified as at risk at the point of transition from preschool had very little letter knowledge in 1996 but later scored above the 90th percentile on the assessment of reading.

The differences between some of the focus children's trajectories and the trajectories that might have been predicted is a powerful reminder that early assessments may imperfectly predict the future. There were some early starters who lost their way, and some late starters who were able to overcome poor early scores with a fortunate combination of good teaching and/or substantial family support.

- **Not all children follow predictable trajectories based on early literacy assessments**

The study explored the relationships between early literacy assessment in the year prior to school and the first year of school and later literacy performance within each of the first four years of school. Section 4 *Almost ten, what then?* analyses the relationships between early assessments in 1996 and the later outcomes in 2000. Correlations were calculated between early letter and sound knowledge and later performance in reading, comprehension, sight words, spelling, writing and computer literacy. There were moderately strong correlations between letter identification in 1996 and 2000 scores on comprehension, sight words, spelling

and writing. Lower but statistically significant correlations were recorded between 1997 phonemic awareness scores and 2000 scores on comprehension, sight words, spelling and writing. Correlations such as these, which are consistent with a large body of previous research, may be used to support the practice of early identification of children who later have literacy difficulties. Early identification is already well established in Australian schools and is one of the common characteristics of schools identified by systems as particularly effective in supporting children with learning difficulties. However, it should be remembered that correlations even higher than those reported in this study account for only about 50 per cent of the variance in students' scores. This means that early assessments may often fail to identify children who would benefit from additional and continuing support in the form of responsive diagnostic data-driven teaching. Similarly, early assessments may incorrectly identify as at risk some children who are following a delayed or different path of development.

- **Late starters and 'catching up'**

For the case study children who did not learn to read and write rapidly on entering school there was considerable pressure on the children, their families and their teachers for them to 'catch up'. Some children had access to different opportunities for literacy learning and play at home which made a difference to what they were able to take up and make use of at school. Some children in the preschool were engaged and learning from books. Some children learnt to crack the alphabetic code later, in school, but they attended to texts like a reader and a learner, rather than seeing texts as alien or uncomfortable objects. These late starters already knew how to make texts work for them (even if they still needed a parent or teacher to mediate). Yet there were other children who were also late to crack the code, but who had not found ways of connecting to the text-based forms of pleasure, learning and work. The research suggests that catching up on the literacy ladder is a privilege reserved for those children who are already socially and economically advantaged in terms of access to the print culture. In this report we have used the concept of economic and cultural 'capital' to assist our analysis of this sort of social difference. 'Catching up' is not easy, especially if one's life circumstances are difficult, but it is possible when teachers, parents and children make it a priority.

- **Early starters and later success**

It is often assumed that children who learn to read early will maintain their gains in literacy throughout schooling. However this study suggests that children's trajectories may be uneven and that early progress does not automatically guarantee continued high progress. A number of factors may interrupt a high progress beginning. Social relations in the classroom seem to impact on literacy performance. Family traumas, moves and illnesses can significantly interrupt children's learning.

In addition, what is measured as 'literacy' begins to shift in ways that may impact on relative performance. For example, as the children in this study progressed through school the reading assessments were increasingly likely to test for children's understandings of facts and relationships in a range of text types. Some children may be less experienced with these kinds of reading practices than they were with the kinds of reading tested in the early years. A number of children, many of them girls, whom we had anticipated were likely to make advanced progress on the basis of their very early literacy performance, had not maintained their advanced achievement. By Year 3 they had become 'average'. The 'new forms of literate practice' that children were asked to display in this fourth year of school required significantly different understandings, strategies and techniques to construct and understand texts. As the study progressed many children were assembling a range of literacy practices such as understanding the relationships between information, selecting appropriate details, and using differing forms of modality, tense and text structure. As the children progressed

through school these new forms of literate practices required overt instruction similar to the overt instruction that occurred in the early years of school.

3. Home and community experiences influence children's literacy development

The five schools in this study served very different communities and within the school communities the many diverse families had a range of relationships with the school and its staff. Several parents experienced significant differences, misunderstandings and communication breakdowns about their child(ren). Families and communities had differing views about schooling. At the Hillview site many children were fortunate to have parents with the social and cultural capital to monitor their progress very carefully. The parents expected clear communication between school and home. If their children did not get the help that the parents believed they needed then the parents sought private tutoring and assessment. In many cases the language, social and textual practices of the home and the school were similar, creating an easy connection between home and school values and attitudes. For some children these connections did not exist, making it difficult for them to fit easily into established ways of behaving, speaking and interacting with the sorts of texts that are valued in school. This is what we are calling 'school literacy', in an attempt to acknowledge that other forms of literate practice, although not valued in school, are perhaps not so difficult for some children to learn in other contexts.

Some parents who were dealing with difficult life circumstances such as poverty and ill-health mistrusted the school's diagnosis of children with learning difficulties or disabilities and feared teachers' judgments about poor parenting. Across our research sites, some parents felt themselves unwelcome in the school setting because of the unspoken valuing of certain forms of cultural and social capital more highly than others. In the Gibbs Crossing site, for instance, while the Indigenous parents were welcome they were not employed in any of the more powerful roles at the school. Those children whose parents have the educational background and social capital to monitor progress carefully, to provide extra support when necessary and to engage in an ongoing dialogue with teachers and schools about their children's progress were most likely to end up succeeding in school literacy.

As the study remained focused on the same 20 'focus children' over five years, we noticed too that the range of activities children engaged in outside of school expanded for some of the children as they grew older. Some children's out-of-school experiences meant that they were using the literacy competence they were developing in school to operate in and on the world in ways far beyond the literacy experiences provided in school. Some children found that their out of school experiences did not mutually reinforce and extend their school literacy, and were often not of use to them in dealing with the sort of literacy activities required for success in school.

We found too that particular ways of behaving in school may be interpreted differently according to gender, and a child's ability to comply easily with classroom routines. For instance while several focus girls demonstrated a passive lack of engagement in learning, this often went undetected because their compliance with routines enabled them to appear to be making reasonable progress. In contrast, several focus boys were quickly observed to be having trouble complying with school routines. They had difficulty adjusting to the sudden move from the informal routines of pre-primary to the more formal routines of school. Some of the focus children had not developed the dispositions that facilitated the take up of what was offered in the first year of school. For this reason, although they made some progress with managing school routines, they were not demonstrating early reading behaviours by the end of their first year at school. The capacity to organise their work and manage their belongings also caused these students some difficulty. Some boys disliked not having opportunities to select their own tasks and move around the room at will, so rapidly found

distractions and were seen as ‘naughty boys’. The behaviour of several children worried other children in the class while it prevented them from focusing on the specific literacy practices and knowledge they needed to acquire. It was apparent that the literacy curriculum did not suit the knowledge, skills and dispositions that several boys brought with them to school.

Some teachers did offer programs that engaged all students, not just those academically inclined. The problems with disengaged students, both girls and boys, cannot solely be blamed on the school. Indeed it needs to be understood as a consequence of broader social change affecting families and communities, and in particular those living in poverty.

4. Teaching that made a difference

The case studies of focus children revealed common patterns of teaching that appeared to make a difference to their literacy development. Many of these practices were connected to teachers’ philosophical and ideological understandings about the purposes of literacy rather than relying on particular teaching strategies or prepackaged curriculum content. A teacher who appeared to ‘make a difference’ at Gibbs Crossing focused on children’s success and broke learning tasks down into small achievable steps with highly explicit instruction, ensuring that a particular focus child continued to achieve success. This teacher respected the local community and participated in community activities. At the Sweetwater site, a child’s physical disabilities were considered and a computer was made available to ensure that his writing could be successfully read. The teacher also knew a lot about this focus child’s out-of-school experiences and adjusted the learning activities to suit what he required. In another case the teacher introduced a program of close and critical reading of texts because she perceived that the students could all decode well but were not understanding what they read and this was limiting their engagement and growth. This teacher worked to engage the students socially and intellectually by using popular culture and by challenging the taken-for-granted meanings of what was read outside school.

The teachers who used data-driven, diagnostic and responsive teaching did appear to make a difference. They made sure their students were observed while engaged in literacy activities, that their learning was analysed and that the activities they then planned were explicit about literacy purposes, processes and teaching strategies. Observation, diagnosis and responsive teaching also assumes that teachers have high levels of classroom management skills. Several schools used a whole-school approach to literacy which allowed teachers to target literacy instruction with individuals or small groups. Some schools were committed to a vision of improvement and shared innovative ways of monitoring what children were learning; they provided creative supplementary instruction when required. In these schools teachers did not take for granted the skills often acquired in the early years of school.

Teacher–student social relations were crucial to the successful learning of the children; so too were teachers’ actual pedagogical and communicative repertoires. Literacy teaching which made a difference focused very closely on what children said, read, wrote and drew as they engaged in textual practices. In their responses they referred to the specific words, phrases, ideas and techniques the child was using or attempting to use in their reading, writing, speaking or acting. These teachers responded in great detail to children’s words with profound and sustained concentration. We suspect that this allowed them to analyse what children could do and were trying to do. Such pedagogy went beyond familiar routines and strategies, and we feel that the profession would benefit from further observational study and discourse analyses of the talk of such teachers during literacy events.

In sites where teachers were under stress related to living with little support in remote communities or where they were working in classrooms with many students with compounding problems of poverty, learning difficulties and family tensions, the picture was far less positive. The teachers often needed to focus on control rather than finding ways to

engage children in learning. Some children had so much time out through absence from school, preoccupation with problems at home or within the social dimension of their schoolroom, or through being placed in 'timeout', that they missed a lot of instruction time. They also missed many opportunities that 'time on task' in school could provide for them to practise using their developing literacy skills.

Yet the picture in socio-economically disadvantaged schools was by no means uniform or bleak. The research team witnessed several teachers whose delight in students' thoughts, ideas and potential led to high expectations and high achievements. Often their good humour and the related emotional security of their classrooms were a reflection of a whole-school approach to a shared vision about high expectations and peer support. Sometimes it was a particular teacher who provided particular children with an emotionally safe space to develop and grow. Humour was one observable feature of such teaching that was hard to miss but impossible to measure. We feel that such relational aspects of pedagogical practices and their effects require further study.

100 children turn 10 has built on the key findings of the study *100 children go to school* which explored the literacy development of children moving from the year prior to school to the first year of formal school. In the year prior to school there were clearly identified differences between those children who were performing at high levels in measurable literacy proficiencies and the children performing at lower levels. This study found that some children had at least partially bridged the gap, but for others the gap had increased dramatically. This finding requires attention and action.

First, it requires an understanding that effective teaching of early years' literacy can not be 'contained' in a single program, approach or philosophy. It is a dynamic process that is responsive to the particular rather than the general, to the differences that children bring with them rather than to general conceptions of a normal child development. The action needed is not more of the same or a move to provide an improved curriculum, but rather for all teachers to create and share knowledge about good early years' literacy teaching and appropriate early intervention.

Second, it requires a 'safety net' at 8–9 years of age for children who do not have the automatic and independent literacy strategies and repertoires needed to reach their learning potential in primary school. Good first teaching, effective early intervention and a second safety net require teachers who are knowledgeable and energetic, and practise culturally responsive literacy teaching.

Children entering Year 3 at school are leaving behind what we have historically understood as the junior primary, infants, or early childhood education. The curriculum begins to be more strongly knowledge based and success is reliant on the skills and attitudes developed in these early years of school. Our case studies show that children in the early years and in primary school are capable and eager to act in the world in real and purposeful ways that involve them working with knowledge in quite sophisticated literacy practices. Schooling needs to reflect this, and it needs to acknowledge that those children whose capital investment in the early years of schooling was inappropriate for a good return in the short term, should not be left bankrupt in their future learning potential.

2. Reflections on Methodology

Jo-Anne Reid
University of New England

I've been in a classroom where Jo's been coming for my *whole life* – or at least my whole school time (Michael, focus child, 2000).

This chapter outlines the design of the research project and reviews the significant issues relating to questions of methodology that have arisen for us as a research team. The reflections on methodology includes the implications of the broad theoretical position we have adopted for the individual case reports within the five site studies we provide here. The chapter begins by outlining the design and implementation of the study and then provides a brief reflective discussion of the phases of our research design. Discussed within this outline is the problem of researching the mediation phase of our research plan which, although central to our thinking and original design, has remained problematic within our practice throughout the five years of the study.

Involvement in case study research means that:

Some unit of integrity (a person, a group, a community) is both outlined and contained by a researcher, who is studying, not the case itself, but a case of something, some phenomenon...Thus the researcher is constantly making decisions about what is, or is not, within the constructed bounds, what is, or is not, relevant to such a case (Dyson, 1997, p. 168).

The phenomenon that we have studied, through the students and the sites we have selected, is literacy development. Decisions about what is and is not relevant to considerations of literacy development in each site and for each focus child in the study have been contingent on context and circumstance. We have worked as a team of five researchers who together set out to study literacy practices within the bounds of a significant time span in the life of around 100 Australian children starting school. As a research team we have come together from a range of different backgrounds and histories, all concerned in part with questions of literacy and social justice. We have been joined and assisted by research colleagues and part-time research fellows who have taken responsibility (and must also take credit) for much of the documentary research, the rigour and reliability of the testing process, and the collation and analysis of the assessment data.

This has meant that, just as for *100 children go to school* (Hill, Comber, Loudon, Rivalland, & Reid, 1998), this research report is the product of a range of research voices and experiences. In relation to the site studies, our individual interpretations and theoretical positions will hold prominence. These reports are detailed accounts of the bounded experiences of factors relevant to the literacy experience of each of the focus children, constructed out of our own observational and documentary records of the events, interactions and exchanges that we have selected as significant. However, our decision to produce five site studies in this report, rather than 20 case studies as in *100 children go to school*, is significant. Our discussion and analysis here builds on the earlier study, and draws on the

extensive volume and range of data produced over five years of careful ethnography, interviews and testing.

There is only one factor – their school entry year – that is shared by all of the 100 children. While we have recognised the significance of gender, class, race and ethnicity as issues in the experience of literacy curriculum in schools, we have not focused on any of these as analytic variables in our study, or problematised them as categories within our interpretative frameworks. Nor have we challenged the range of accepted contemporary notions of literacy (DEETYA, 1998) in our assessment of the children’s achievement. Rather, in studying the opportunities for literacy learning that are on offer to, and are taken up by, different children in their first years of school, we have attempted to focus on the situated nature of school literacy. It happens to children (both girls and boys) differently in different locations. The significance of location, of situation, has meant that there is value in considering the children learning in each research site as a group who have been offered a similar curriculum, but who have entered school with different amounts of social, symbolic, language and literary ‘capital’ (Bourdieu, 1977) to invest in their literacy development. Within the particular site, each focus child has experienced and taken up what is on offer there in different ways, and with sometimes very different outcomes.

The research objectives, design, sites and participants

The methodological design has allowed us to dialogue between the hard data of the literacy assessment scores and the more complex observational, interview and work sample data of the classroom ethnographies and individual case studies. This has allowed us to build up a much more complex and comprehensive analysis to which policy-makers may turn (Dyson, 1993) if an accurate appraisal and a successful revision of early literacy policy is to develop.

The objectives were to produce:

- a brief literature review of research into literacy development in the preschool and the first four years of school with a focus on diverse communities and home and school connections, which was to be written for easy access by practicing teachers
- longitudinal measurable literacy outcomes of a sample group of children’s prior-to-school to the fourth year of school experiences
- longitudinal qualitative case studies of the literacy development of 20 focus children within five different cultural and socio-economic research sites.

The longitudinal study occurred in three phases. The first phase explored links between children’s home circumstances and their prior-to-school and first year of school circumstances. The impact of these cultural continuities and discontinuities on literacy performance in the first year of schooling in 1996-1997 were documented in the 1998 report *100 children go to school*. The second phase of the project (1998) was a university-funded round of assessment tasks which were administered towards the end of the second year of schooling using the same assessment tasks as in 1996 and 1997. Only quantitative assessment data were collected in 1998. The third phase of the project, funded by DEST, allowed for collection of both quantitative assessment data and qualitative case study data in the homes and schools in 1999 and 2000.

To undertake the research we selected research sites to represent a range of geographic, social and economic populations across the three States where members of the research team were located. Each member of the research team took responsibility for the management and reporting of one research site. In selecting the focus children at each site, we sought

particularly to represent diverse preschool, daycare and home care experiences prior to school entry.

Research sites

Site 1, referred to here as The Wattles, is a suburb 15 kilometres north of Adelaide, South Australia in a low socio-economic area with short-term and long-term unemployment among parents. The school has a history of innovative pedagogy. The children in the community surrounding The Wattles are now growing up and there are less students in the primary school. The school principal reported that some families may move their children to other schools but most people in the community chose to send their children to the local school.

Site 2, Riverside, is an inner urban South Australian site with the school population reflecting the cultural diversity of the suburb – this includes post-war European immigrants from Italy (5 per cent) and Greece (11 per cent) and more recent arrivals from 28 different countries including Ethiopia, Sudan, Papua New Guinea, Fiji, Iran, Iraq, the Philippines, Taiwan, China and Korea, as well as Indigenous and Anglo-Australian children. A positive approach to multiculturalism underpins the school's ethos and programs. Not all students come from the local area. Some travel up to 25 kilometres to attend Riverside for its highly regarded Students of High Intellectual Potential (SHIP) program.

Site 3 is a remote Aboriginal community on the edge of the Western Desert, Western Australia, which we have called Gibbs Crossing. This site provided access to a bilingual and bidialectical context in which there is not a strong tradition of participation in organised pre-primary education. The school comprises an assortment of permanent and transportable buildings set in tidy green grounds with a swimming pool, shelter sheds and an aviary. Community members live in transportable houses in town, or in sheds, or camps, on the outskirts of town.

Site 4, Sweetwater, is in a suburban area in a large Victorian regional centre we have called Yulle. This is an area characteristic of many rural centres in terms of increasing social and economic hardship and struggle. It is a mono-cultural (predominantly Anglo-Celtic) area, with few obvious markers of social difference evident apart from income. The school has traditionally followed a neighbourhood policy, where places have been given to children of local families as a priority, but falling numbers have meant that enrolments are being taken from further afield. There are only two NESB children in the school, and a small number of Koorie children move through the school from time to time. This means there is little diversity of language or ethnic culture, although there is a wide variation in the home background of the school population in terms of socio-economic status.

Site 5, Hillview, is in one of the economically advantaged older and well-established western suburbs of Perth, the capital city of Western Australia. In 1997 the kindergarten was incorporated into Hillview Primary School as an off-site pre-primary year which offered full day preschool for five-year-olds. An additional building was added to the school to accommodate the four-year-old group. In 2000 the school had 300 children enrolled. The school population included many families where both parents had professional qualifications.

Participants

At each of the sites the children in the study were initially enrolled in either Year 1 (Western Australia), Prep (Victoria) or Reception (South Australia). Associated with this group of children, and thus relevant to each case, were a large number of childcare workers, preschool teachers, family daycare workers and parents. Four focus children in each site were selected

from those whose parents volunteered to make themselves and their children available as case study subjects.

As the following table of the focus children at each site indicates, we studied, and reported in *100 children go to school*, detailed case studies of 7 girls and 13 boys. The differences between children across sites, as they appear in this chart, are predominantly to do with the constitution of the local community to which they belong, and the linguistic culture of their homes.

Table 1
Research site location and languages of focus children

Site	Child	Age at first assessment	Languages spoken at home
The Wattles	Christianne (F)	5:0	English; Greek
	Erin (F)	5:1	English
	Sean (M)	4:11	English
	Pete (M)	5:0	English; Spanish; Italian
Riverside	Daniel (M) *	5:0	English; Spanish (limited)
	Tessa (F)	4:7	English; Greek
	Mark (M)	4:10	English; Korean
	Alan (M)	4:11	English; Hungarian (limited)
Gibbs Crossing	Reena (F)	5:1	Community Aboriginal language; Aboriginal English
	James (M) *	4:11	English; Dutch (grandparents)
	Korbyn (M)	5:8	Community Aboriginal language; Aboriginal English
	Aston (M)	4:11	Community Aboriginal language; Aboriginal English
Sweetwater	Freya (F)	5:7	English
	Michael (M)	5:4	English
	Jake (M)	4:11	English
	Paul (M)	5:3	English
Hillview	Felicity (F)	5:5	English
	Mandy (F)	5:5	English
	Casey (M)	5:7	English
	Campbell (M)	5:0	English

* Daniel and James, have not remained in the study over the full time, and therefore do not have case reports included in the present site studies. At the Gibbs Crossing site, another child, Stella, who featured as a classmate of the children in the original report, has been included as a focus child in this site study.

Of our original focus group, 50 per cent speak only English at home. These children who speak only English at home are located across different sites – although they predominate in the country regional centre of Sweetwater and the economically advantaged Perth inner-western suburb of Hillview. Only one child (Freya, at the Sweetwater site) had not attended a formal preschool program of some kind. As with the names of the research sites already introduced here, the names of all children, teachers and parents have been changed to protect the confidentiality of participants. There is one exception to this, the focus child, Michael, whose mother wishes his real first name to remain in the final text.

Research aims and purposes

When Michael, aged 9, remarked on the coincidence of one of the research team's presence in the classrooms he'd been in for his 'whole school life', it is not at all clear whether he was aware that he had been the focus of her attention on each of those visits. It is clear, though, that the researcher was not an everyday part of his school experience. She 'has been coming' to his classrooms, and so she is not 'always there', like his teachers, or the teachers' aides, or the parent helpers, the principal or the canteen helpers. In his comment she is marked as an outsider to the school, yet she is neither problematically foreign nor out of place in his eyes. He has grown used to her presence, but still remarks on it as noteworthy. The ethnographer is back. She will take her notes, and sit in on the groups he works with, watching and listening to what he and his peers talk about and do in their school time. She is mostly always writing. Though sometimes she will be just talking to the children, or reading them a story, listening to them read, helping them with their writing, or their maths problems, or typing up their writing while they listen to the religious education teacher.

In this report, as soon as we move outside the sphere of reporting on the carefully administered and often standardised tests of literacy which have punctuated our research design at regular intervals, then positivist questions regarding the reliability, validity and generalisability of our research findings become irrelevant. They give way, as Kirsch and Mortensen (1996) say 'to a provocative range of questions about power and representation' that are raised both in the collection and reporting of our research evidence. These questions are central to our methodological concerns:

With interpretation a crucial issue, researchers must grapple with the rhetorical construction of interpretive authority. And attendant upon rhetorical construction are a host of ethical questions regarding the rights and responsibilities of representation (Kirsch & Mortensen, 1996, p. xxi).

Our research brief changed over time. Our first report recorded the outcomes of our investigations into three broad project aims in 1996-1997. First, it provided a summary of research on early literacy and numeracy and an historical summary of preschool, childcare and other prior-to-school experiences in Australia. Second, it offered a map of the prior-to-school experiences of Australian children in the year prior to the first year of primary schooling. Third, it reported a set of literacy outcomes measured prior to school and again after the first year of school, along with a qualitative study of a sample group of children's prior-to-school and first year of school experiences. The *100 children go to school* study began in mid-1996 with a DEETYA brief to examine the extent to which prior-to-school experience, characterised by us as cultural, social and symbolic 'capital' (Bourdieu, 1991; Carrington & Luke, 1997), could be cashed in by students for literacy and educational success. The present study has aimed to update the review of relevant literature and extend the scope of the study of the children's literacy experience and measurable literacy progress and achievement to the end of 2000, the year that the 1997 school entry cohort completed the Year 3 Basic Skills Test (BST).

The research process in each site has impacted on the member of the research team responsible for the site as much as we have impacted on the children, families, classrooms and schools that we have researched. Our task as ethnographic researchers has been to interpret the data we have collected in each research site, in the site studies and snapshots of the individual children on whom we have focused. Our analysis and reporting of this data is always an interpretive process, and we must make clear to our readers how we have seen and understood the practices and material experiences of our research subjects. A research report such as this is a rhetorical construction forged out of the ethnographic encounters we have experienced:

The author both acts and is acted upon, both affects and is affected by – indeed is an effect of – the relationships and interpretations inscribed in the ethnographic text (Sullivan, 1996, p. 106).

Sullivan here is addressing the relationships of power and representation in any ethnographic research. These relationships form the basis of the ‘reflections’ that constitute this chapter. Readers are reminded that these are most profitably read in conjunction with our first report on the research methodology and design of the project in *100 children go to school*.

We set out to study five different sites around Australia after increased national government funding for, and policy emphasis on, literacy in the early years. In this way we took up a project brief to design what we understood as ‘research for policy’ in Codd’s (1998) sense. Codd explains that this type of research provides an information base for policy-makers:

Analysis for policy can take two different forms: (a) *policy advocacy* which has the purpose of making specific policy recommendations; and (b) *information for policy* in which the researcher’s task is to provide policy-makers with information and data to assist them in the revision or formulation of actual policies (1998, p. 235, original italics).

We see our work as policy advocacy for certain principles of home-school connection and curriculum mediation gathered from our review of literature and previous research.

Mediation

The design of our ethnographic case studies was based on the work of Louis Moll (1992) and his colleagues, from whom we took the idea that mediation between the home and the school was of benefit to teachers in understanding more about the nature of the children they were teaching. We considered that this process of home-school mediation would thus ultimately be of benefit to the students as recipients of this better-informed teaching. We therefore built a mediation phase into our research design, so that the data collected from home mediation visits could be analysed and a literacy curriculum developed from this by the teacher. This would be a curriculum that would take into account the ‘funds of knowledge’ that the children were bringing to the school setting from their homes. We described the problems we encountered during the implementation and maintenance of this mediation phase in *100 children go to school*. But we did not abandon the idea of mediation, nor our efforts to test it in the range of school situations we had available as a team.

That it did work significantly well in some of the sites is reported in the site studies themselves. The benefits of even limited interaction and exchange between home and school has served to warrant our commitment to this as an important and necessary component of a successful transition to school for many children. We consider that this is particularly needed in cases where the culture of the school is sufficiently different from that of the home to mean that the child must learn the culture of school along with the content of the early years of schooling – literacy. Where a child with special difficulties was entering school (case study child Michael, at Sweetwater, for instance) mediation of a slightly different form was important. The actions of Michael’s parent to bring his home and preschool experience to the attention of the teacher was instrumental to his teacher’s acceptance of him as simply a ‘child’, rather than a ‘disabled child’. This contributed greatly to this teacher’s success in handling his disability with the sensitivity and rigour needed for him to succeed socially and academically at school.

The difficulties we encountered adapting the mediation strategies of Moll et al. (1992) in this research project were related to patterns of organisation and relationships within the larger

educational system, rather than to problems inherent in the theory of building curriculum based on community 'funds of knowledge'. Our methodology for this task, on reflection, may have been more appropriate to an action research approach than to the case study intervention we planned. As outsiders (by design) to our research sites we were unable to change them from within, to accommodate this alteration to existing practices in each of our sites. For this reason, we were not able to adapt our design 'on the ground' in a way that now appears to us as desirable if we are to fully examine the effects of mediation in the transition from home to school. Organisational constraints and unforeseen changes worked actively to countermand our (external) initiatives to link teachers, children and parents outside of school time and school grounds. Our project has not allowed us to advocate this form of mediation as strongly as we set out in our design, and in this regard it provides stimulus for further research rather than policy change. However we remain convinced of the value of teachers being able to find out as much as possible about the lives and community literacies of the children they teach.

Data collection

Our five-year longitudinal study has juxtaposed and made connections between qualitative research in classrooms and homes, comprising classroom observation, collection of children's literacy work and interviews with parents, and regular quantitative testing of children's literacy achievements on a series of graded literacy assessment tasks. This dialogue between qualitative enquiry into the nature of the experience of home and school for these children, and quantitative assessment of the amount of school literacy they have learned, has been a central motif in our research design. This project took place in three phases. First, we planned case studies of children's literacy experiences prior to school and in the first year of school, in five research sites around Australia, and included literacy outcomes of the first year of school. This project was reported in *100 children go to school* in 1998.

During 1998, the project 'continued' as five different research projects funded by the researchers' home institutions. In this year, we limited our research to the collection of the children's results on a common set of test items and procedures at the end of their second year of school. In 1999, with a return of DEST (formerly DEETYA) funding, classroom observations, home visits and parent interviews at each site were again planned into the research design, and continued in 2000, with testing at the end of each of these years. As the following table (Table 2) of data collection methods indicates, we have achieved consistency of data across all sites for classroom observation and literacy assessment of children, and across four sites for home visits and parent interviews. In some sites, the mediation process has been frustrated by staff changes or family movement. In Gibbs Crossing researchers have found it difficult to interview itinerant or relocated parents and to consistently observe the same focus children over time.

Table 2
Methods of data collection, 1996-2000

	1996 Preschool (all States)	1997 Prep/R (Vic/SA) Year 1 (WA)	1998 Year 1 (Vic/SA) Year 2 (WA)	1999 Year 2 (Vic/SA) Year 3 (WA)	2000 Year 3 (Vic/SA) Year 4 (WA)
Home visits/parent interviews	all sites	all sites		The Wattles, Riverside, Sweetwater, Hillview	The Wattles, Riverside, Sweetwater, Hillview
Mediation	The Wattles, Riverside, Sweetwater	The Wattles, Riverside		The Wattles, Riverside	
Classroom observation	all sites	all sites		all sites	all sites
Literacy assessment	all sites	all sites	all sites	all sites	all sites
Versions of National BST				Hillview, Gibbs Crossing	The Wattles, Sweetwater, Riverside

By maintaining both our annual assessment of the children’s literacy, and our consistency of observation, home visits and parent interviews, we are able to provide parents, teachers, policy-makers and the wider research community with a unique glimpse behind the statistics. Our research design has enabled us to represent (and perhaps better understand) the potential complexity of experience, response and investment represented by the focus children’s scores on literacy tests. Some further discussion of changes to items in our annual literacy assessment tasks is provided in Chapter 4 *Almost ten, what then?* (this volume). As detailed there, these changes occurred as the children moved through the relevant age-norms for some of the standardised test items, and we needed to select or design more challenging items to assess the range and scope of their expanding literacy prowess.

Our emphasis on the collection of a range of research evidence has allowed the test scores of the focus children to be considered in relation to the observational and interview data. It has also allowed us to consider the complex interrelation of factors impinging on each of the measured scores in this statistical representation of a particular population’s literacy. This design has therefore allowed us to make certain claims and statements about how (and what) literacy is taught in Australian schools. We make the claim – following Papert (1993), Cairney, Ruge, Buchanan, Lowe, & Munsie (1995), Gunn (1997), and our own findings in 1996-1998 – that schools are remarkably similar around the nation, regardless of location. This is particularly the case for early literacy curriculum, which has been the focus of our study.

The information and data that our research has provided speaks strongly to policy-makers to assist them in appraising, revising and reformulating literacy policies in the early and middle years of schooling. We are mindful of Luke’s (1995, p. 84) claim that ‘[i]t is not always easy to anticipate the material consequences of the discourses of policy and curriculum – either in terms of the differential distribution of social, cultural and economic capital, or in terms of the local building of cultural resources and social identities’. This research aimed to provide some focus on that materiality. We have attempted to document and report on the building of the literate school and social identities of the focus children. We have followed them against the backdrop of their school-entry age cohort, in ways that acknowledge and account for the

children as embodied, social and emotional subjects, whose lives prior to and outside of school impact on their learning of literacy.

This has proved both a challenge and an opportunity. The methodological challenge, as outlined in *100 children go to school*, has been to accommodate within a post-positivist research agenda an accepted need for the inclusion of measurable outcomes about the progress of the children towards the Year 3 Basic Skills Test. Our 1996-97 baseline data can provide useful comparison with the scores these children ultimately achieved in 2000. The research opportunity for us, in the analysis and reporting of our research, has been to be able to locate ourselves dialogically at particular points between the qualitative and the quantitative axes of our study. The quality of the tension, interplay and abrasion between what can be interpreted from the two forms of data has forced our thinking in new directions that we feel can no longer remain unexplored. We were faced with ethical issues at several points along each of these axes, and in the dialogic space between them, as the following discussion elaborates.

Reflecting on design, data and analysis

Let us turn at this point to focus on the ‘provocative questions’ of representation and ethics that ought to be addressed in any discussion of research methodology, particularly within large institutional contexts. The key ethical issue of children’s awareness of themselves as subjects, which is discussed later in this chapter, is a central theme here. There are several other issues of research methodology in a longitudinal study such as this, though, that we as a team feel need addressing. Some of these are taken up in individual site studies, though in fact the decision to report on our research through the site studies rather than individual case studies points to one of the key issues of representation for us.

The ethics of speaking for others: ‘Aiming to benefit’?

First, though, it must be acknowledged that, in spite of the fact that it was their parents who gave us the permission to record their ‘getting of literacy’, the children in this study have enabled us to understand and make certain claims about literacy learning in Australia at the start of the 21st century. We are indebted to each of these families. As researchers, policy-makers, teachers and institutional workers, we need to know how it is that our children are progressing in the nation’s schools at this time. The case studies are all careful and authoritative accounts of literacy events, pedagogies and outcomes written from a shared understanding among the research team that we were committed to a project of advocacy for literacy practices that promote social justice in schools.

But, as Linda Alcoff warns, such a commitment must always make itself available for critical reflection and interrogation:

The practice of speaking for others is often born of a desire for mastery, to privilege oneself as the one who is more correctly understands the truth about another’s situation or as one who can champion a just cause and thus achieve glory and praise (Alcoff 1991, cited in Sullivan, 1996).

Any ‘glory’ we see trailing from our report and analysis accrues from our championship of the cause for equity and justice in our nation’s educational provision. There are children, among them some of our focus children, who, from our representation, might appear not to have received a fair, just or equitable education in literacy. We can (and do, in our site studies) provide strong and substantiated accounts of how the educational system is not working for them. Our accounts do speak from this position, (‘for’ the others of our

research), rather than from a position which sees the children as having (already) failed in education. In other words we want to *advocate for* rather than *speak about* them. Our site studies, as a set, tell a disturbing tale of how some Australian children receive meagre servings of literacy experience and instruction in their schools, while others are served a rich diet of nourishing literacy activities.

We are troubled by our lack of power to make a difference for our research subjects, particularly in relation to Sullivan's (1996, p. 98) reminder that when 'we seek to understand and render the lived experience of others, our research should ultimately aim to benefit those whose voices, texts, and circumstances make such understanding possible'. This is a dilemma for many researchers of course. The children whose stories are recorded here in detail are very special children for us, and we sincerely hope that they may have benefited in some way from being so special, for what, in the end, has been their 'whole school time' at the end of the study. Yet can we be sure? Our team discussions of the site studies, for instance, raise significant issues that we feel must be addressed by policy reform.

One of us speaks with ill-concealed despair about an Indigenous child in a remote outback school 'colouring in reindeer' as part of his school literacy curriculum. When another talks of a child still unable to read after four years of school we are forced to question the appropriateness and quality of the education on offer to him over this time. And when yet another worries about a bright and intelligent five-year-old who by age nine is spending her class time searching for split ends in her ponytail, we are forced to question the relevance of the curriculum on offer to her. At the same time, we have found that the nature of the official literacy curriculum in many of the classrooms we have observed over the past five years is far less important to the literacy learning of particular children than the nature of the social situation in which it occurs. In particular, the quality of interpersonal relationships between teacher and child and between the child and other children appears to be very significant. In presenting this research for policy, we are hopeful that the nature of our research design and the representation of our findings can assist educational leaders to acknowledge ongoing problems for many children in 'getting literacy' at school. We hope that our representations do emphasise and advocate the importance and difference that a 'good teacher' can make in a child's life, and that policy-makers will respond in appropriate ways.

First do no harm: Children's awareness of themselves as subjects

At the same time we are also aware that our regular observation, testing and interaction with the focus children's parents may have produced in some of them an exaggerated self-consciousness about their literacy achievements and limitations. In my own site study I recorded the excitement with which one of the focus children informed me that he was now in the 'Gold' reading group. This information came after I had been absent from the school for some months over the end of one year and the start of the next. In the same study I also record his display of frustration, anger and aggression in the classroom during a writing activity I was observing in the same week. I record this incident in the case study without comment about the possible implications my own presence in the classroom may have had for this child's sense of himself as an achieving child and a successful learner. In this discussion, though, I want to reflect on the impact of the relationship between this child and myself as researcher on his awareness of himself as a research subject.

The focus children were not explicitly named or singled out from their classmates during classroom observation sessions. Their peers did not know, unless the children themselves told them, that we visited their homes and talked regularly with their parents. As a 'non-participant observer' in their classrooms (and this status is so near to impossible in a junior primary classroom that the term appears oxymoronic) my fieldnotes contain information about the whole class, and many individuals apart from the focus children are mentioned.

When the children were just starting school they would enjoy finding their names in my notebook, and would insist that I came to ‘sit near this table’ to watch them and record their conversations and actions. While the focus children knew that I photocopied their writing books and listened to them read every time I visited the classroom, they also knew that they were not the only children in their year to whom this happened. And they were not aware of each other as the only four children about whom I actually wrote. They have not read their case studies of course, and I am confident that none of their parents has read them to them. However they did know that I talked to their parents about them and the things they do, and they were keen for me to see them doing well.

I have always had a reciprocally friendly relationship with Jacob (or Jake) since our first meeting when he climbed on my lap for comfort after hurting himself during a preschool dancing activity. I have written carefully about his home relationships, about what I have interpreted to be an atmosphere of sexism and violence in his interactions with women and other children, and about the relative absence of sustained or regular interaction with gentle men in his life. I have written about his physical frailty and vulnerability, and the milestones I have seen in his progress towards becoming a boy who can read and write and be happy at school. I have made no claims for impartiality or objectivity in my representation of this child – as another human being I cannot help but have feelings for him, as I have for each of the focus children, their teachers, and many of their classmates. But I have never asked him how he feels about being part of the project. When his actions appeared to show me that he cared very much that I see him being successful, I bracketed this knowledge from the research task, and withdrew myself from the action, seeking protection from this thorny dilemma in my role as ‘non-participant observer’.

My feelings (as a mother, and as a friend to the child) were completely ‘with’ him. As I watched him (a member of the Gold Reading Group), being ostracised and humiliated by a group of his classmates, I felt embarrassed by my role as witness to his shame. When I realised the extent of his embarrassment meant that he was rendered incapable of sitting calmly at his desk and writing the caption to a photograph the teacher had provided, I wanted not to have witnessed it. I wonder, still, whether his outburst of paper ripping, destruction of his book, and ultimate throwing of chairs in the classroom as the incident escalated out of his control might not have occurred if I had not been there.

Discussing this with his teacher, and later the principal, I was assured that this behaviour was quite typical of the child’s behaviour generally and that, although I had not seen it before, they had, and that I should treat it as a predictable, though ‘relatively uncommon’, event. I remain unsure, however. The incident has featured in my case report because of its significance in that child’s case as a whole. It was a predictable outburst from him, within the framework of his history and struggle at school. But, as I have argued in both case studies of this child, it was certainly not inevitable.

The author as an effect of research relationships

A reader armed with this information will now be able to see the ‘constructedness’ of the case reports quite clearly, we believe, and thus read our site studies more critically. This reflection allows an understanding of Sullivan’s (1996) claim, above, about the ethnographer both ‘acting and being acted upon’, both ‘affecting and being affected’ by ‘the relationships and interpretations inscribed in the ethnographic text’ (p. 106). The inclusion in that study of a particular quote from this child’s mother, where she rails against the school as a place where her son is ‘picked on’, appeared at the time of writing to be just a fortuitous data ‘find’. Her words were lying there among pages of interview transcription ‘waiting’ to be found. As Bourdieu reminds us, though, ‘[r]eality offers itself to you when you are within the preconstructed...Additionally, lots of things have been systematically destroyed, lots of

things are secret' (Bourdieu 1992, p. 44). A consideration of questions of representation allows us therefore to read the 'reality' of the site studies as always being constructed as an effect of the research relationships in each particular site.

Doing the research job: Partial representation for policy purposes

Each of the members of the research team has faced this problem (and the ethical question it begs) in our representation of each of the case reports in the five site studies provided here. As a research team collaborating to report on five different research sites, we have constructed a framework for reporting our site studies that cannot possibly allow us to tell all we know about the site, or about any focus child. As authors, we are individually keenly aware of the 'secrets' that remain undisclosed in our studies. We know about the data we have collected that have been left out of our studies for reasons of space, and thus been erased in the writing of studies that need, to some degree, to be comparable. The reader cannot share this knowledge, of course, and can never know the 'whole story' of each case as we have interpreted it. The representations contained herein are all there is.

We acknowledge that this is the situation in all research to some degree, but in this instance we caution the reader (in particular readers involved in policy-making) to be mindful of this issue of representation when reading. As a textual representation of five years of observation and interview and ongoing data analysis, our site study reports tell only part of the story behind the literacy achievements of these children. In every case this is more complex, less attributable to any single cause or group of influences, and less stable than we have been able to represent here.

The case reports are compressed into site studies for reasons of space and rhetoric. We do want the reader to gain a sense of the focus children as individuals within their school year cohort, at the same time as we want the uniqueness and individuality of each to be appreciated. While it might be said the 1997 school entry cohort around Australia has experienced a comparable curriculum in terms of the outcomes it has been designed to achieve for their literacy proficiency and practice, our studies point to the wide variation in the material, embodied and emotional experience of that curriculum, both across and within sites, over time. This variation can be understood theoretically as a variation in one or more of the 'elements' in the formal curriculum 'space' that produces the classroom curriculum as a real material 'place' in practice (de Certeau, 1984). Consistently variable 'elements' in this study, of course, have been the teachers to whose classrooms the focus children have been assigned each year.

Who's in focus? Teachers who inherit research subjects

When this study began, teachers of Kindergarten/Year Prep/Year 1 in the research site primary schools were invited to participate in the home mediation and preschool visits with the researchers, and to take up the opportunity to prepare a curriculum that valued and was responsive to what the children brought with them to school. In several sites these teachers were volunteers with both enthusiasm for and commitment to the 'just cause' the research was advocating, and had indicated that they were willing to take several (if not all) of the focus children into their classrooms. They were fully aware that although the researchers would be there to 'watch the children', our interest was also, inevitably, in what kinds of literacy experiences were on offer for the children to take up and connect with their prior-to-school experience. Because of the tension between these linked foci, there was undoubtedly a 'risk' involved in this sort of year-long 'public scrutiny' for the teachers concerned. Sites were initially selected from the range of schools that seemed appropriate and interesting because of individual teachers' enthusiasm to take part in the study. We found that principals in each of the research sites were extremely co-operative in giving support to the project,

knowing that staff were already ‘on side’ and not threatened by the impending presence of an ethnographer in their classrooms.

However, as reported in *100 children go to school*, the positive expectations and relationships set up in 1996, the year prior to the cohort’s entry into primary school, were not able to be built upon in several research sites because of staff turnover, promotion and transfer. This meant that the schools, now ‘morally’ committed to taking part in the research because prior-to-school observation, testing and home visits had taken place for the focus children, were asked in several cases to request participation from teachers who had not initially agreed to be part of the project. In terms of research ethics, these issues needed to be dealt with sensitively over time. In practical terms, it meant that in some sites focus children were placed in two, three or four different class groups. Although this made our classroom observation more difficult, it did mean that no teacher who had ‘inherited’ a focus child would feel they were being ‘held responsible’ for the context in which these children were developing their school literacy.

The implications of teachers inheriting an obligation to be ‘researched’ continued to complicate the study as it changed over time. In each site, the children have passed through the ‘junior primary’ section of the school during the course of the study. In one research site, for instance, there have now been nine different teachers (three of these casual term appointments) whose teaching and interpersonal relationships with the children have formed the context of observation. This number does not include the specialist teachers in the school, in whose classrooms the children have also been observed, nor does it include the teachers taking assembly, on playground duty, or providing the classroom teacher with relief from face-to-face teaching during the school week. Over five years a considerable number of people outside of the group from whom we originally sought consent have been observed interacting with our focus children during school hours. At the start of each year, new relationships have had to be formed with the site researcher, and during the year also with the project research associate who visited to conduct the literacy assessment tasks in Term 4. Each year, while consent from the parents of the cohort has been renegotiated on a basis of continuing trust, we have needed to request teachers’ consent without any prior relationship. The issue here is that, while all participants, schools and locations are made anonymous in our reports, after five years there is considerable knowledge and interest within the schools themselves about the project. This means that teachers, ‘anonymous’ in the letter of our text, but always potentially identifiable to ‘insiders’ to the research site, are potentially at risk of injury to at least their staff-room reputations. Without their generosity and professionalism, this study could not have been completed with the degree of detail and comprehensive data that has been achieved and, just as for parents, our work owes much to their courage in allowing us access to the children for whose literacy education they have been responsible.

Pinning down the research subject: Issues of change in longitudinal projects

This problem of teachers inheriting involvement in the research project as they take on a new class is linked to another methodological issue that we have needed to address as a research team. This is the problem of change over time. In none of the research sites has the original cohort enrolled in Year 1, Kindergarten or Prep (in Western Australia, South Australia and Victoria respectively) remained intact over the five-year period. In some sites there has been a significant turnover of children entering and leaving the school from year to year and from term to term. This is reflected in the gradual dwindling of numbers from the original 113 tested in 1996 to about 100 in 1998, and down to 71 in 2000. We have made efforts to follow and track children who have moved intrastate from the site school, but we made a decision early in the project not to track children who moved interstate. In three of the sites: Riverside, The Wattles and Gibbs Crossing, the issues of transience and population shift have been significant. Several focus children from Riverside and The Wattles have moved schools, and

one of the focus children from Gibbs Crossing is on the official list of 'Children whose whereabouts are unknown' in Western Australia.

This has had several ethical implications for the research team. The most significant of these has been the decision to depart from strict site boundaries in the Gibbs Crossing site, to observe and test children from the 1997 school entry cohort at other schools in the Western Desert when they have happened to be there at the same time as the researcher. Clearly, there has been no planning or prior arrangement with teachers for this to happen. The decision was made to seize the opportunity to keep the child in the study. The research team viewed this as potentially less 'harmful' to the subject (and others like her), than to lose all chance of representing her experience as meaningful and typical of other children attempting to 'get their literacy' in snatches, fits and starts, from a range of desert schools where none has any record of her progress and achievement to date, and no systematic program of instruction is able to be provided. One of the focus children has been found under different names in different schools. We do not know why, and can assume little. Perhaps this was a deliberate measure, or a safety precaution on her family's part to avoid unwanted detection by others. Perhaps it occurred simply because the recording of her name in different schools was made by people of differing familiarity with her non-standard dialect and pronunciation.

In any longitudinal study, issues of change and indeterminacy must be accommodated within the research design and we have attempted to do this in several ways. While this is less of a problem for the case study reports, the issue of incomplete data has necessarily meant our ability to analyse and generalise from the quantitative data is not as extensive as we had anticipated. For instance, of the four focus children in my own research site, we have BST data for only two. (In Victoria, children sat for the achievement improvement monitor or AIM assessment in 2000.) This is because one has repeated a year of school over Prep/Year 1, and so will not be eligible to sit the AIM test until 2001. The other child was absent from school during the 2000 AIM testing period, due to an opportunity his parents had taken to travel overseas to a conference, and take their children with them. Similarly, the Riverside site has only two of the original focus children for whom Year 3 BST data is available, as children from the 1997 intake in these sites did not sit the test due to illness or other reasons. For The Wattles site, no BST results were available for the focus children still at the school as the two children still at the site did not sit for the test.

Conclusion: Negotiating the research agenda over time

The changing nature of both the researchers' own, and the research subjects' lives over this five-year period has ensured the absolute necessity of ongoing local negotiation with parents and with teachers. It has been difficult to apply a standard protocol despite our desire for a shared research design at each of the five sites. Problems of distance have been an issue for two of the researchers. The remoteness of the Gibbs Crossing site has meant that regular short observation periods have been impossible. The complication of the transience of the remote area population has compounded this. The researcher in that site has taken advantage of every opportunity that incidental contact with individual focus children in several different desert schools has afforded for observation and testing. There has also been a lesser problem caused by the relocation of one of the research team interstate, which has meant that observational data at her research site had to be collected during week-long visits to the school twice each year, rather than in shorter and more regular visits.

To address initial concerns about the reliability of test data from different sites during the 1996-97 testing cycles, we made the decision after 1998 to ensure that these data were collected and scored consistently across the three States and five sites. This has meant that the research associates from WA and SA needed to liaise to prepare for the testing in WA and SA/Vic respectively. We changed several of our literacy assessment items over the course of

the project, as mentioned above, and as discussed in the chapter on assessment. This has also meant changing the format of our testing from a one-on-one situation in the first three years to a whole-class test situation for the writing assessment tasks in 1999 and 2000. This change was made to avoid repetition of the stimulus video clip prepared as an introduction to the writing activity, and to help reduce and break up the individual testing time for the children.

The teachers in some research sites saw our testing as complementary to their own ongoing assessment of the children's progress. However we have been mindful throughout the project of problems inherent in asking children to perform across a range of test items within a limited time period. There are obvious inequities inherent in this sort of testing procedure. Some children might be feeling unwell. Some may have had an emotional upset that distracts and intervenes in their thinking. Some have been tested at the end of the day. Yet they have all been scored and judged in the same way as those who were fresh, happy and full of breakfast, first thing in the morning.

And finally on exceptional generosity...

The 100 children of this study have been the key elements in a five-year longitudinal study of their literacy development through what has indeed been their whole school lives. Their parents gave us permission, back in 1996, to follow them from preschool to kindergarten, to test their literacy on a detailed battery of assessment tasks, and, with particular reference to the four focus children in each of our research sites, to observe them regularly in their classrooms. Their teachers allowed us to observe the children (and, inextricably from this, their teaching practices) during their first year of school, and then to test them again to see how much they had learnt. The parents of the focus children permitted us to visit them in their homes, take samples of their children's literacy products, ask detailed questions about their parenting and child-rearing practices, and to share this information with the children's teachers. As explained below, parents, schools and teachers agreed, after two years, to allow us to continue to test the children, and then again, in 1999, to return to regular classroom observation, interviews and home visits, and even more testing, for another two years. The children – just five years old at the start of the study – have been the subject of our interested and very attentive gaze.

Their parents made what we still consider to be an exceptionally generous decision on their children's behalf. The children simply got used to us being in their classrooms and their school playgrounds, and sometimes at home, talking to their parents. We have observed and interacted with these children now for five years, and we have developed strong and lasting feelings towards them, their families and their teachers as people, rather than as 'subjects' of, and in, our research. To all involved – teachers, parents and children – we extend our gratitude.

3. Literacy as a Site of Child Development: Research Agendas and Classroom Practice

Susan Nichols with Donna Broadhurst

Introduction to the review of literature

This review has been written with teachers in mind and has been driven by the types of questions teachers ask – questions such as what should young children learn about literacy; and what factors contribute to literacy development? The chapter is framed in three sections: the first section considers theoretical frameworks underpinning recent research; the second section reviews longitudinal studies of children’s literacy development; and in the third section we consider the teaching implications of this theory and research.

In Section 1 we have considered theoretical frameworks relating to definitions of literacy; construction of the notion of ‘the child’; and the influence of models of child development on how literacy practice and development is viewed. How research is conceptualised, framed and carried out is related to researchers’ theoretical orientations and impacts upon what researchers look for and what they ‘find’. As a consequence children’s literacy development is framed in different ways by different researchers. Literacy development occurs within a context and we have considered how these contexts are characterised in the research literature. This characterisation is often in terms of relations of difference from one context to another, or relations of connectedness between contexts.

In Section 2 the longitudinal research we have investigated reveals patterns in children’s literacy development and also that children develop literacy concepts in idiosyncratic ways. There is discussion on the relative contribution of home and school factors. This reveals complexity and interaction effects, many of which are still to be teased out. What is clear from numerous studies is that the early acquisition of skills tends to place children in a better position to take up what school has to offer. What is still unclear is just why there are differences in literacy skills at an early age. Pedagogy which supports one type of skill acquisition does not necessarily foster the development of others. As children move through schooling levels, the factors which are important for literacy development both persist and change. As an example, the research suggests that early training in phonemic awareness has been found to be supportive of later literacy development, and an emphasis on meaning is helpful in later years.

In Section 3 we have taken a more practical focus and discuss the implications for teachers. We have focused on aspects of teaching that may help to expand upon sound practices which already exist in schools. This approach aims to address the perennial question of why all children do not benefit from program X or Y, or pedagogy Z. The expansion of ideas helps locate literacy learning as a situated and social practice which occurs in school and in out-of-school contexts – albeit in different ways. Making connections between contexts of learning is integral to the promotion of a social justice agenda and a recognition of the function of literacy across communities.

Section 1: Theoretical frameworks

How is literacy defined?

To be 'literate' is, according to the Latin derivation, to be 'lettered', that is able to read and write. It has been pointed out by literacy historians such as Graff (1994) that this ability was, in many periods and in many societies, restricted to a sub-group within society. In modern Western societies, however, literacy is considered a universal requirement for full social participation, and being 'illiterate' is often considered to be a deviant category (Wickert, 1992).

Literacy is often distinguished from the use of oral language (sometimes called 'oracy') and how this difference is understood is a key issue in studies of the home-school relation, a point that will be discussed further below. In terms of the school curriculum, however, competence in both written and oral language is often included under the umbrella of 'literacy', particularly since the move to a broad-based 'communication' curriculum in many systems in the 1980s. This is reflected in the curriculum model of language arts in the national statements and profiles: reading, writing, speaking, listening and viewing are all included in this model (Australian Education Council, 1993). In this broader approach, language is understood as one of a range of systems or modes of representation. The visual is one such mode, as is mathematical symbol, musical notation and, even, gesture (New London Group, 1996). This way of defining literacy has recently been termed 'multiliteracies'.

Thus there is no single definition of literacy that can be used to define or measure children's literacy development. However there are two over-arching theoretical constructs that recur in literacy theory and research regardless of which specific definition is operating. These constructs are 'representation' and 'practice'. While it can be said that representation is a practice, it is useful to consider these ideas separately since they can manifest in different kinds of literacy research.

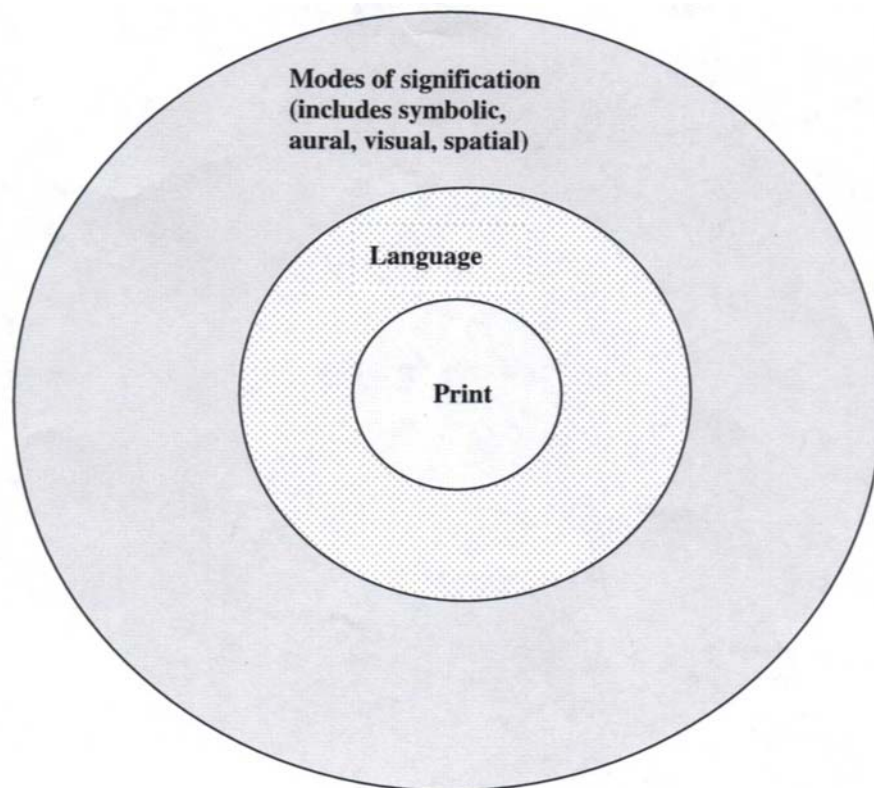
Literacy as representation

Representation refers to the primary process of meaning-making using available resources. All acts of communication require us to represent some 'state of affairs' (Lemke, 1990) – that is what statements are – and to do this we have available a range of meaning-making resources, depending on our prior experience and social location. Print is one of these meaning-making resources, as is oral language. Visual imagery and symbolic notation are also meaning-making resources.

The model at Figure 1 shows how different definitions of literacy focus on different representational resources. At the same time it demonstrates that these definitions are related within an over-arching concept of representation. Language is part of a larger set of representational resources and print is part of language.

The inner circle represents a print-oriented definition of literacy, closest to the notion of being 'lettered'. This is illustrated by the following description of literacy events: 'As children participate in literacy events ... they learn that print is a language signifier – that it carries linguistic meaning – and they learn about the ways in which print represents meaning, the 'code' and the conventions of encoding and decoding the print' (Purcell-Gates, 1995, p. 46). The predominance of this definition can be seen in the continuing importance of reading and writing measures in literacy assessment, a pattern which can be seen in the review of longitudinal research in Section 2.

Figure 1
Literacy as representation (Nichols, 2000)



The middle circle of Figure 1 represents a language-oriented definition of literacy, which necessarily includes print but extends the range of representational resources to include oral language. Halliday's definition of language continues to be useful in emphasising its representational and social function: '[L]anguage is one of the semiotic systems that constitute a culture; one that is distinctive in that it also serves as an encoding system for many ... others' (1978, p. 2). As mentioned earlier, in the 1980s there was a shift in many school systems in Australia to this broader definition of literacy with an emphasis on communication across the curriculum.

Some theorists are now claiming that it is again necessary to redefine literacy in order to encompass the kinds of representation, communication and production that are increasingly supplementing or replacing traditional modes (Cope & Kalantzis, 2000). Just as the print-based definition of literacy was challenged by the broader communications-based model, this model is now under challenge from a still broader orientation to literacy. This new approach is referred to here as the 'semiotic' orientation and can be summed up by the statement 'text is more than language' (Kress, 1999, p. 468). In the same way that we can ask how individuals and groups use language to make meanings and accomplish their goals, we can ask how meanings are made and goals accomplished using other 'semiotic resources' such as pictures, numerical symbols and music (Lemke, 1990).

One argument for including a broad range of meaning-making systems and practices under the broad heading of 'literacy' is the growing importance of multi-media texts to convey information. In multi-media, print is combined with sound, movement and visual imagery to create complex texts which require the 'reader' to process in multiple modes simultaneously (Johnson-Eilola, 1997). However, this development has prompted some literacy analysts to

point out that language has never been essentially separate from other modes of communication – print has a visual aspect and speech an aural component (Russell, 2000). In education, these non-linguistic representational resources have often been used in literacy instruction and learning without necessarily being recognised within a definition of literacy. For instance, books for children and non-fiction textbooks are frequently illustrated so that the ‘reading’ of these texts requires visual decoding skills as well as print literacy competence. The semiotic model, therefore, does not replace older definitions of literacy. Rather, it is inclusive of, and adds to, both the traditional print-oriented and the more recent language-oriented communications model.

Literacy as practice

Understanding literacy as practice (the second over-arching construct) means attending to the circumstances within which representations are produced. These circumstances may include the immediate and broader social contexts: the participants and their relations to each other; the purpose of the activity; the way it unfolds over time; and the physical characteristics of the setting.

Literacy ethnographers such as Heath (1983) and Tyler (1993) led the shift to practice-oriented approaches to literacy through their observational studies of literacy practices in diverse community settings. Heath’s work is discussed further below. More recently, McNaughton (1995, p. 20) focused his investigation of family literacy on practices understood as ‘systems of activity’. Activities, he points out, are always purposeful, and identifying their purposes provides insights into the social and cultural values of families and communities. The social and cultural context within which literacy activities are undertaken is often complex and this complexity is often more easily seen in family and community settings than in classrooms. Writing about caregivers’ decisions about literacy activities with their children, McNaughton (1995) observes: ‘[P]articularly in multilingual, multicultural, industrialised countries ... multiple cultural meanings and messages exist in the socialisation process ... [Caregivers] select from and adapt to these multiple heterogenous ‘voices’ which are available to them’ (p. 30). So in speaking of literacy as practice, it is more accurate to speak of multiple literacies in multiple social and cultural contexts interacting in complex ways.

One significant effect of the practice-oriented approach has been to change the way that traditional school literacy is understood. Cairney and Ruge, for instance, focus on how school literacy is ‘situationally defined in and through interactions’ (1998, p. 5). They identify four definitions that operate in school settings: literacy as knowledge, literacy as performance, literacy as negotiated, and literacy as ‘doing school’. McHoul (1991), when observing reading instruction, focused not on the decoding practices used by children but on the ‘conventions or ceremonies’ involved in the performance of reading instruction. Both these examples illustrate how a practice-oriented approach to literacy allows us to see the multiple purposes it serves. Even in schools, literacy activities are not solely for the purpose of learning; they are used to shape children into particular kinds of social subjects (Kamler, Maclean, Reid, & Simpson, 1994).

Complex studies of literacy, particularly those that are longitudinal and/or conducted in community as well as school settings, tend to include both representation and practice in their definitions of literacy. Snow, Barnes, Chandler, Goodman, and Hemphill (1991, p. 175), for instance, define literacy as ‘complex relationships among reading, writing, ways of talking, ways of learning, and ways of knowing’. Some studies focus primarily on the use of print within a social practice perspective. Purcell-Gates (1995) defines literacy in terms of being ‘lettered’ and thus is able to describe a household as ‘non-literate’ because its residents do not use print as a representational resource. However, she also understands literacy as a set of

social practices around the use of print. Labbo (1996) takes a semiotic approach to investigating children's computer literacy. She points out that a semiotic approach inherently involves both representation and practice dimensions: 'Semiotic analysis gives equal credit to the cognitive contribution of the individual child's investigation of symbol usage as well as to the social contribution of the interactions that flow around and through those investigations' (p. 359).

To summarise, definitions of literacy may or may not specify the representational resources that are included. Print literacy is still considered by many researchers to be the core of literate competence. However many studies include oral communication either within a definition of literacy or as a separate but related strand of development, often termed 'oral language'. More recently, due to developments in technologies and the proliferation of multimodal texts, an expanded definition of literacy has begun to be supported, one that includes a broader range of representational resources. However, the ground for this development had already been prepared by a shift to a definition of literacy as social practice. Ethnographic studies of practices around literacy have revealed that in community and classroom settings the use of print is accompanied by talk, gesture and action. Such studies fit quite comfortably within a broader semiotic framework.

How is the child defined?

A consistent picture of the child as an active learner is evident in much of the literature. It is an integral part of the theoretical framework of many studies and emerges from researchers' observations of children in home and school settings. Individual child case studies offer tremendous opportunities to understand the child as motivated and intentional. Longitudinal studies which track children's transition into and through schooling make it possible to discuss the degree of match between particular children's intentions and their resources for achieving these, and the intentions and resources of the school curriculum. Studies of this kind will be considered in Section 2 of this chapter.

The child as an individual recurs in studies of development. Clay (1991) views the child as a problem-solver and inventor of new ways. This constructivist view is supported by her close observations of children, a process which provides fine-grained and in-depth detail about development. Clay recognises however, that individual development is also integrally linked to context and social interaction.

The child is often defined as social in two differing ways, which relate to the researcher's location and questions. First, the child is seen as a participant in social relations within specific groupings, for instance, within the family, the class or the friendship group. Here the researcher's interest is often on observing the interactional patterns within the group and how the child negotiates with others to fulfil her or his social intentions (Dyson, 1993). Second, the child may be assigned to demographic groupings such as age, sex, race and class. This is often done for the purpose of comparative analysis and, in literacy research, such demographic factors are often correlated with literacy performance measures.

The influence of models of child development on views of literacy practice and development

The definition and conceptualisation we have of 'the child' and child development will impact upon our views about literacy practice and development. Social historians have discussed how ideas about child development have emerged and become incorporated into practice (Riley, 1983; Tyler, 1993). The intersubjective theory of literacy development, for instance, grew out of earlier research into maternal attachment, which was biological in

orientation (Riley, 1983). Maternal deprivation (through absent or disengaged mothers) was seen to have negative consequences for a host of developmental processes, including language development. Tyler (1993) describes how the notion of 'normal' development in a range of domains (physical, cognitive, social, linguistic) was influential in the organisation of the modern kindergarten. Unobtrusive monitoring and measurement methods were introduced (one-way observation screens, graded chair sizes) so that 'problems' in children's development could be identified and appropriate interventions put in place. These studies alert us to the constructive force of models of child development; they enable not only the evaluation of individual children, but also of the environments they occupy and the programs put in place for them.

In research studies the understanding of development is influenced by: the domain(s) of development being studied; the timeframe within which the study takes place; the context within which children are being studied; and the practices of measurement and comparison being used. Many of them are part of the tradition of early language study in which children are observed with their primary caregivers over a period of time, sometimes from infancy (e.g. Tizard & Hughes, 1984; Wells, 1986). Samples of their utterances are gathered, analysed and compared. Commonalities across cohorts tend to support theories of universal developmental sequences or processes. Differences between groups of children prompt discussion of contextual factors influencing development.

In the UK, Wells (1986) tracked a group of children from 15 months to 10 years old. Over the first three years, these children exhibited a common sequence of oral language development in terms of the functions for which speech was used and the associated emergence of grammatical structures. Like many other language researchers, Wells also found a consistent pattern of child-adult interaction and from this argued that development is promoted by: the adult treating the child's behaviour as intentional; both child and adult sustaining 'joint attention' to some feature of the environment; and the adult giving meaningful feedback to the child. This process is considered as being driven in the first instance by the child's 'innate' tendency to act within the environment, which requires that the child continuously 'make sense' of the environment and her or his actions.

The innate 'natural' developmental drive is assumed also by Rogoff (1990) who considers that it is the transformations and rhythms intrinsic to life which are the foundations of development, and that it is the direction of change and the dynamics of life that organise change in particular directions which require explanation. Her study of child-rearing practices across a range of cultural settings provides more broadly-based support for the notion of a common pattern of adult-child interaction that facilitates child development. She calls this pattern guided participation. Like Wells' conditions for language development, it arises from 'a sharing of focus and purpose' (Rogoff, 1990, p. 8) and involves the adult or more expert partner 'building bridges' (or scaffolding) from the child's present knowledge to new knowledge, and is based on Vygotsky's (1978) socio-cultural ideas of development. Because Rogoff is interested in learning, broadly understood, rather than in learning measured by school literacy achievement, the picture she provides is rich in description of the cultural practices of communities.

While the notion of a common facilitative role for adults is supported by many studies, it has been argued that this is a cultural construct applied by mainstream researchers. Heath's (1983) landmark comparative ethnography found that whether adults take a facilitative role depends on cultural and social understandings about the nature of childhood, learning and community. Over several years, Heath and her team observed day-to-day routines in three different communities in the USA (a white rural town, a black working-class neighbourhood and a mainstream, multi-racial, middle-class group). The behaviour patterns of adults directly intervening to facilitate children's language development were noted in two of the communities. However, in Trackton, the black neighbourhood, a different pattern of language

development was observed. Here adults spoke infrequently to infants and did not modify their speech when they did. Children were gradually admitted into the conversational interactions of the community as they were able to demonstrate that they had picked up interactive norms. Rather than explicit instructive feedback, the children's linguistic competence was reinforced through concrete rewards (gifts) and the transitory attention of the assembled group.

By observing the Trackton children over time, Heath was able to note that there was indeed a common pattern to their language development, but that this was different to the mainstream developmental path. She describes the path of Trackton children's literacy development in terms of stages of oral participation with adults: the first two stages involve repeating and then varying utterances the child has heard in conversation. Through variation of utterances, the child comes to understand how one word or phrase can perform different kinds of social work in different situations. Observations of children's independent babbling are not unusual. However, the difference in this context is the relative lack of adult intervention through extending the child's utterances or providing direct feedback. In the third stage the child begins to participate by interjecting into continuing conversations. These interjections are responded to in terms of their appropriateness to social norms of confidence in performance, originality and degree of challenge to others. This response comes in the form of concrete rewards and through participants allocating 'the floor' momentarily to the child. Here the language developmental pathway leads to the production of a particular kind of social subject, one that is alert, opportunistic and creative with language.

Purcell-Gates' (1995) choice of a research subject allowed her to study literacy development away from the early childhood oral language context. 'Donny', seven years old at the outset of the two-year study, was a member of a 'non-literate' family. Neither parent practiced reading and the use of print within the home was practically non-existent, although all members were skilled in oral communication. Donny's apparent failure to acquire print literacy at school prompted the researcher to investigate the social conditions necessary for the acquisition of print literacy – social conditions which did not appear to be present in either school or home. From focused interventions and observations, Purcell-Gates concluded that print literacy development begins with the recognition that print is a signifying tool that can be mobilised to achieve social and personal goals. From this comes the drive to learn the written code and the associated practices of encoding and decoding. However, repetition of these practices is required in order to develop automaticity and fluency. Dyson (1993) similarly argues that acquiring literacy involves becoming aware of the kinds of social work made possible by written language, and by putting symbol systems to work to achieve social goals. Her observations show that when teachers incorporate children's social goals into the curriculum this awareness can be achieved within the context of the classroom community.

From a more individual perspective, Clay (1991) considers reading to be a problem-solving activity which requires children to bring language and visual perception purposefully together. She notes that longitudinal and observation-based research disrupts accepted ideas about developmental stages because children often do not fit into the stages when studied in these ways. In terms of literacy development, children engage in unique ways of making meaning. A single text read to, or by, a number of children will be constructed by each child in a unique way.

Sites of literacy development

We have reviewed a number of recent key studies in the field of children's literacy to address questions about the relationship between literacy practices in two sites. These sites are important because they both exert considerable influence on children's developmental trajectories (Wachs, 2000). The first of these sites is generally labelled 'the school', although most studies actually centre on a particular kind of site within the school, the classroom. The

second of these sites is not as easy to label since how it is characterised is influenced by the practice of research: the questions, methods and location of the researchers. Sometimes it is referred to as 'the home', sometimes 'the family'. Other studies take a broader view with a focus on 'the neighbourhood', 'the community' or, yet more widely, 'the culture'. The relationship between these two sites is one of the key issues of educational, and more specifically of literacy, research and practice. How this relationship is problematised varies according to the ways in which literacy, language, schooling and culture are understood.

Relations of difference

Research into the relationship between home factors and school learning is a complex interdisciplinary field. A vast array of home variables has been studied over the years for their significance to children's school achievement in general and to literacy learning in particular. For the purposes of this review what is of interest is how the home-school relation is conceptualised and what this means for an understanding of children's literacy development. The nature of much of the relevant research is comparative: schools are compared with homes, teachers are compared with parents, different home 'backgrounds' are compared with each other. This means that relations of difference are written into the research design and/or emerge from the analysis.

The relationship between oral language and print literacy is a key issue in literacy development theory. This relationship is often associated with another key relation, that between home and school, such that the home is seen as the site of oral language development and the school the site of print literacy development. In developmental terms the transition from home to school in the early years means that oral literacy is also generally understood as a precursor to print literacy (rather than an aspect of development that continues through schooling, and indeed throughout life) as evidenced in statements such as: '[C]hildren's beginning school books ... begin to build a transition from "oral language" ways of documenting and communicating experience and knowledge towards "literate language" ways' (Baker & Freebody, 1989, p. 1).

An alternative perspective on the relation between print and speech is taken by Street and Street who use the term 'oral-literate continuum' (1991, p. 151). In their observations of literacy events they noted that in both home and school settings oral and literate strategies were combined to accomplish tasks. They claim that the inter-relationship between these two representational resources is ignored because school pedagogy focuses on the individual as the site for learning. Oral communication on the other hand is a social act and therefore not traditionally the focus of school pedagogy.

Oral language interactions in home and school settings have been studied by a number of researchers who have taken different perspectives – developmental (e.g. Wells, 1986), cross-cultural (e.g. Tizard, Blatchford, Burke, Farquhar & Plewis, 1988) and pedagogic (Freiberg & Freebody, 1995). A common finding is that adult-child interaction patterns in the home are significantly different from teacher-student interaction patterns in classrooms. One way of characterising this difference is in terms of 'participation rights' (Freebody & Ludwig, 1995). Children are accorded greater and more diverse participation rights in interactions with adult caregivers in out-of-school settings. The interactions tend to be more challenging cognitively in out-of-school settings (e.g. Tizard & Hughes, 1984). In classroom interactions with teachers children are much less likely to initiate conversation topics and much more likely to be required to answer questions. They are also less likely to find that their contributions are taken up and built on by their adult speaking partner.

Such differences can be understood in terms of knowledge and representation. In Freiberg and Freebody's (1995) analysis of adult-child interactions around learning, teachers were

observed frequently to ask questions requiring children to possess general knowledge not directly related to the specific task at hand. Parents rarely did this; when assisting their children with homework their questions called on specific task-related knowledge. The 'pedagogic events' enacted at home and school were qualitatively different. Teachers responded positively or neutrally to all children's responses while parents gave evaluations, naming responses as 'right' or 'wrong' and supplying 'right' answers when the child was unable to. Despite their apparent acceptance of children's responses, teachers took the 'expert' position in that they framed the questions and shaped the discussion towards their intended outcomes. Parents shifted from 'expert' to 'non-expert' partner depending on their child's knowledge of the task. Cairney and Ruge (1998) found that mismatches between homes and schools were less to do with the different literacy practices that were employed, than with 'terms of authority and concepts of knowledge' (p. 59). Children from families that constructed power relations and knowledge in similar ways to those operating in the classroom were advantaged at school.

One of the key relations of difference in home-school literacy research is the social class relation. Comparative studies of children from working-class and middle-class families have attempted to investigate what is most responsible for their difference in school achievement: home environment variables, school practices or a combination of the two. One of the home environment variables that has received considerable attention is, once again, oral language interactions. Bernstein's (1973) theory of class codes has had a strong influence on subsequent research. He claimed low socio-economic status (SES) children are disadvantaged at school due to their socialisation into a 'restricted' (context-specific) oral language code. Wells (1986) set out to investigate this claim in a landmark longitudinal study and found no differences in oral language competencies between working-class and middle-class children from two and a half years until school entry. The association between low SES and a restricted language code was disrupted by the finding that working-class parents were as likely to extend on their children's utterances and to refer to ideas and information from outside the immediate context as were middle-class parents.

This finding meant Wells had to look beyond oral language competence for an explanation of working-class children's comparatively low achievement in school literacy. He suggested that early experiences with print texts in the home might be a mediating factor linking SES with school achievement. Children who had more experience of parents reading stories to them achieved higher scores for reading at ages 7 and 10; these children were more likely to be middle-class. Wells believes that such story-reading sets children up for participating in school literacy practices and, more broadly, for a kind of learning that is decontextualised and transferable.

Social class is also a focus of Lareau's (1989) study of two schools and their communities. Although not specifically about literacy it is of interest for its finding that middle-class children and working-class children have different trajectories through schooling, or, as Lareau terms it, different 'careers'. Middle-class children experience 'customised careers', that is to say that adjustments are made both at home and, to a lesser extent, at school, to cater for their learning styles, aspirations and social requirements. Working-class children on the other hand experience a one-size-fits-all 'generic career'. Lareau uses Bourdieu's (1986) concept of cultural capital to broaden the explanation beyond income differences to the forms of knowledge and social networks drawn on by families to advance their children.

Heath (1983) comes to similar conclusions in her analysis of the difference between mainstream and working-class communities in terms of their orientation to literacy. This difference is understood in terms of broader 'norms of conduct' (p. 236) which advantage middle-class children and, by the same token, exclude those not in the mainstream. These mainstream norms include: linearity as a means of organising space and time; the privileging of expert knowledge; the formalisation of rules for group activities; and voluntariness in

social activities. The link between these broader norms and more specific literacy practices can be seen for example in the privileging of expert knowledge. Heath notes that secondary sources are valued over information gained through immediate social networks (unlike in the two working-class communities). These secondary sources often take the form of print texts, so that it is these texts that are then understood as carrying authority. This association of print literacy products with valued knowledge is a key foundation of school approaches to learning, not just of literacy but of all subjects. Home, school and work mutually reinforce common forms of literate competence such as the ability to shift 'from labels to the discussion of the features of the items labelled' (Heath, 1983, p. 261). Due to this constant reinforcing, these forms of competence come to be viewed as natural by members of the mainstream. Those who do not have these forms of competence are then considered in deficit terms.

Relations of connectedness

The studies referred to so far tend to set up relations of difference between schools and homes, or between schools and particular kinds of homes. The picture is complicated or disrupted, however, when the focus is either more specific or broader than the home-school comparison. Case studies of individual children enable us to see how forms of knowledge and practice are relayed between sites and transformed in the process. Systems theory or ecological studies see both homes and schools as parts of larger social systems, with relations of mutual influence.

Moll and colleagues (1990) use the term 'community' to describe networks of social relations involving families, neighbours, workmates and others. Like Lareau, they are interested in the distribution of capital, broadly understood, and in which forms of capital are taken up by communities and schools respectively. Their work is a response to the comparatively low school achievement of a group they identify as 'language minority students'. These students are from non-English speaking, often immigrant, families, whose low SES is closely linked to their language background and immigrant status. Despite the label, they may be in the majority in their particular school communities, but are 'minority' in terms of their marginalisation within the dominant English-speaking, middle-class culture of schooling. Moll and his colleagues set out to address this marginalisation by naming community resources as 'funds of knowledge,' thus placing them on a footing with the official knowledge of the school site.

Dyson (1993) uses the concepts of 'worlds' and 'borders' to describe the relationship between the sites which children inhabit. She describes three worlds, each with its set of participant practices involving language and behaviour: the official school world, the peer world, and the home world or 'socio-cultural community'. Case studies of individual children show how they negotiate the different demands of participation in these worlds, often trying to accomplish multiple social goals simultaneously. Print literacy becomes an important tool for negotiation when children are given the opportunity to write on their own topics and for their own purposes. The teacher is seen as having a central role in keeping the borders between these worlds open, 'crossing boundaries and intermingling texts in ways that bring together official and unofficial worlds, supporting children's efforts to be "at home" at school' (Dyson, 1993, p. 109).

McNaughton (1995), following Bronfenbrenner (1979), takes a systems theory approach to the home-school relation, with a particular focus on emergent literacy. A system in this model has three characteristics: it 'is dynamic, it grows and adjusts to various forces, and is goal-oriented' (McNaughton, 1995, p. 162). Systems operate on a number of levels: there are the immediate settings in which a person is situated, termed 'microsystems', such as the family, the neighbourhood and the school; there are larger multi-site institutions such as the churches and corporations; and there are even broader and less tangible groupings of knowledge and

practice such as cultures and ideologies. Sets of activities that take place within these settings can also be understood as forms of systems: reading and writing are two such activity systems.

In terms of understanding development, this model supports a multi-level, multi-site, multi-focus approach. A child's development in terms of her or his participation in activities in settings involves considering the relationship between activities in different settings. Within the activity system of 'reading', for instance, one would need to understand how 'reading' is enacted in all the settings in which the child undertakes or observes 'reading', and how the child perceives reading across the various settings. This would further entail attending to the teaching/learning strategies and how novice-expert relationships are made available to the child within the activity systems in different settings. And it would involve understanding the practice and meaning of 'reading' at all system levels: the micro (home, classroom), the exo (institution, geographic area) and the macro (culture, ideology).

McNaughton argues that for optimal literacy development to occur there should be the closest possible match between activity systems in the microsystems a child enters: 'If activities are similar across settings then expertise is able to be practised more extensively. The power of practice is harnessed if complementary personal systems develop across settings' (1995, p. 167). He disputes the assumption, however, that this is best achieved by the dominance of one microsystem's activity system (e.g. the school's model of reading pedagogy). This is to ignore the influence on child development of the other systems, particularly the cultural system.

Children can be thought of as the linking element between two systems. Serpell (1997) writes that the relation between school and home can be a 'handover' or a 'bridge'. In the first model, the two sites are seen as having different sets of responsibility for the child. The parents 'hand over' the child to the school for an education while the school 'hands over' the child to the parent for socialisation and emotional care. In the second model, there is 'negotiation of a shared understanding of how the responsibilities of the two parties are conceptually related ... and of how the child is expected to integrate the demands of these two worlds' (Serpell, 1997, p. 595). Where there are cultural differences, bridging the two sites is seen to require a form of 'bicultural mediation', which Serpell describes as a translation of concepts across meaning systems.

The foregoing discussion on sites of development reveals that children's lives are grounded in the environments they inhabit. These environments are important influences on development. When they are complementary, children have the opportunity to develop and practice repertoires that link one environment to another, and consequently moving from one microsystem to another can be relatively unproblematic. When there are differences, however, children are involved in negotiating 'how to be' in the different microsystems. In terms of literacy development, each child can, therefore, be expected to develop in unique ways. However, there will be some common patterns of literacy development that emerge across time, and we now turn our attention to the longitudinal research landscape.

Section 2: Longitudinal research

Introduction

In the following section we review findings from longitudinal studies into children's literacy development. These summaries need to be read in the light of the theoretical frameworks discussed in Section 1. In Section 1 we identified the over-arching theoretical constructs of 'representation' and 'practice' which define literacy. These two constructs form a framework which encompasses the set of activities and dispositions which are included under the broad heading of 'literacy' and which children develop in their social settings. These activities and dispositions are both diverse and complex, as highlighted by this review of research.

An important part of all research is defining the constructs to be measured. This means constructs such as 'literacy' and 'development' need to be expressed as events and actions which can be observed and/or reflected on during the research process. There are some commonalities in the way literacy development is defined and measured in longitudinal research. It is important to recognise which definitions have been influential and to ask how research methods and findings might be affected if our definitions were to change.

One of the commonalities in the research we discuss is a focus on reading both in terms of decoding and comprehension. The majority of the studies reviewed for this paper make judgements on children's literacy development by measuring aspects of reading using such tests as letter and word identification and *Concepts About Print* (Clay, 1993). Also, there is an emphasis on reading particular kinds of texts, generally those which are selected by the researchers as suitable for representing graded levels of difficulty, and so for placing children on an achievement or developmental continuum. Tests of environmental print awareness are intended to balance this emphasis, with texts more like those which children encounter in their daily lives; however these are yet to be accepted into mainstream research. There is current political pressure toward benchmarking, and comparatively less emphasis on writing, which could be due to the difficulty of controlling children's written output in order to conduct correlational analysis. This situation is changing with current benchmarking, and so a review undertaken in a few years time may well find an increased emphasis on writing. When oral language is included it is generally measured in terms of verbal IQ and vocabulary. Children's use of oral language to accomplish social goals has been relatively under-researched. Children's use of non-linguistic representational resources is very rarely included in these studies, despite the fact that print is often encountered and used in association with other symbol systems.

We can consider what definitions of literacy are reflected in these longitudinal studies by referring back to Figure 1. Most of the studies occupy the inner circle (literacy as print) but within this has been an even narrower focus on literacy as reading – the processing rather than the production of print texts. There is some action in the middle circle reflecting a broader definition of literacy as language. Much of this is associated with studies focused on the preschool, which then proceed to track the influence of early oral language development on later literacy development. So, in so far as oral language is included in literacy, it is as a precursor. There is very little research reflecting the broadest semiotic definition of literacy, and so our knowledge of how children learn to handle multiple meaning-making resources remains limited at present.

Another commonality is a concern with providing information which may be useful in the prevention of literacy problems; that is in identifying risk factors. Thus most of the studies we have reviewed track a range of variables over a period of time, generally from the preschool period. It is important to keep the notion of variance in mind when interpreting the results of

these studies. Variance refers to the percentage of difference in results (e.g. results on a reading test) which can be explained by reference to a particular variable. As a general statement, there is no single variable which explains most of the variance in children's literacy achievement. Also the obvious should be stated: that it is impossible to find a relationship for a particular variable with literacy achievement when the variable has not been included in the research design. Such absences and limitations should be kept in mind when reading this review.

Prior-to-school contributions to literacy development

Recalling the earlier discussion on sites of development, Wells (1986) found that there was much more diversity in children's language experiences at home than those they encountered at school. At home the children were observed engaging in what Thomas (1998) termed 'conversational learning' based on their interests. Children's learning was supported by adult conversational partners. This type of learning is characterised by its spontaneity and lack of pre-planning, arising as it does out of activities in which children are engaged. It is given meaning as a function of its embeddedness in the world of the child. He found that at school children speak less with an adult, they get fewer turns, express a narrower range of meanings and use grammatically less complex utterances. They ask few questions, make fewer requests and initiate less conversation than they do at home. Children at school are more often reduced to the passive role of respondent. Thomas found that schools were not providing an environment that fostered language development. This finding supported the earlier findings of Tizard and Hughes (1984) who also found qualitative differences in children's oral language interactions at home as compared to institutional settings.

Wells' (1986) Bristol study followed a smaller cohort of children (n=32) for the full nine years of the study. He found at the two preschool assessment periods there was only a weak, non-significant relationship between oral language and family backgrounds. However, while children in Wells' study generally did not differ in their ability to recognise the function and form of communication used in the classroom, when they were assessed at school the relationship was found to strengthen considerably and to be statistically significant. This remained the case for the assessments at ages 5, 7 and 10. This suggested that children from the lower income end of the 'family background continuum' (p. 135) were at a relative disadvantage under the school assessment conditions. The study revealed that the children did not have trouble with composition as such; they were generally competent composers in the oral mode. This mode, however, was not valued, practised or assessed in school to the same extent that written composition was. Wells suggests schools may inadvertently be perpetuating this disadvantage by weighting assessment so strongly in favour of print literacy at the expense of oracy.

The Bristol study demonstrated that children growing up in a literate family environment were advantaged when they began school. Children in this study who were competent writers at ages 9 and 10 had parents who wrote more than those of children who struggled with writing. The test of literacy (*Concepts About Print*) used in this study was strongly associated with class background. Children who did well in the test were more likely to have parents who read more and owned more books. Listening to stories at home prior to school entry was significantly related to children's test scores. Children who had been read to were more competent in narrating a story, describing a scene and following instructions, and were more able to follow teachers' disembedded use of language. Stories presumably provide a time of collaborative meaning-making and discussion which builds on children's existing model of the world, and extends their thinking (Wells, 1986). It is this collaborative meaning-making that seems to be at the centre of children's learning in their home environs (Thomas, 1998; Tizard & Hughes, 1984; Wells, 1986).

Listening to stories involves gaining familiarity with print, providing experience of its organisational structure, as well as exposing children vicariously to experiences outside their own embedded experiences (Wells, 1986). It therefore provides opportunities to discover the symbolic potential of language, which is necessary to later school achievement. Children who do not have the experience of listening to stories arrive at school with less understanding of the purposes of print and of how to obtain meaning from print. As they progress through school, they experience difficulty in achieving a level of independence in reading and writing which would allow them to enjoy these activities.

While reading to children before they begin school seems to have beneficial effects, one study found that reading stories to children in their first year of school was negatively related to reading achievement (Meyer, Wardrop, Stahl, & Linn, 1994). There was no statistically significant relationship found for story-reading during children's second year of school. Story-reading, however, appeared to be positively related to children's listening skills. Reading stories to children is a commonplace practice in many junior primary classrooms. However, Meyer et al. suggest that reading stories in class may actually displace more direct literacy activities such as practicing words, which are needed to engage children with print. It was the engagement with print that was found to have a positive relationship with children's reading achievement once they began school. This included children's self-directed reading but not parental reading of stories.

Exposure to print in the prior-to-school period is widely considered to be important to literacy acquisition. The degree to which children are exposed to print is dependent on the cultural and social practices of their homes and communities. Not all communities use print texts as a routine part of their daily lives, particularly if schooling has been a comparatively recent historical development. Rural Aboriginal communities are one example. A small longitudinal study by Dunn (1999) sought to identify the relationship between the early literacy competence in Indigenous Australian preschool children and their later literacy skills. Children's emergent literacy skills were assessed and mapped over an 18-month period. Dunn found that in the middle of the children's preschool year letter identification skills were almost non-existent. She suggested that lack of exposure to print was an issue. The children appeared to have limited experience with print during their early years and this was confirmed by information supplied by the preschool and parents. Experience at kindergarten did however have some positive effects on Aboriginal children's literacy knowledge. At the end of their kindergarten year (18 months later) significant learning had taken place, but she suggested the children's knowledge of print concepts was still limited and well below peers in New Zealand and the United States of America.

Dunn gathered data on the same children's literacy skills four years later and compared the results from two data-gathering periods (1999) to determine whether there was a relationship between early and later literacy. Four of the seven tasks completed by the children in the early phase of the project showed significant correlations with the tasks completed four years later. These were 1) the environmental print task, 2) the letter identification task, 3) a reading task and 4) concepts about print task. There were clear relationships found between the very earliest test sessions on the concepts about print task and later reading and comprehension writing and tasks. However reading decontextualised text was the only aspect that predicted reading ability four years later. In this study letter identification was found to be an important predictor of reading competence in the early grades (Dunn, 1999).

Complex relationships between home and school factors

In a study conducted by Snow and her colleagues (1991) children from low-income families who did well (slightly above-average) were contrasted with children from low-income families who were slightly below-average readers. This study focused on social practices and

the goal of the study was to consider the ways in which both home and school experiences affected the literacy development and achievement of a small group of elementary school children. Snow and her colleagues viewed the ability to read as a developmental process requiring different skills at different ages. The students were in Years 2, 4 and 6 and were followed for two years.

The sample for the study was drawn from three low-income neighbourhoods in a small city of about 100,000 people in the industrial north-east of the USA. At least half of the children in the school system were eligible for free lunches. Neighbourhoods had a tendency to be racially and ethnically mixed. Many of the children's parents had grown up in the same city, and in many cases the same neighbourhood. Children tended to have easy access to extended family and their parents were often familiar with their child's school and the teachers who taught there. The sample was described as heterogeneous as the families exhibited a diversity of circumstances. Data were collected over 18 months and analysis of literacy gains was performed on 30 of the children. Analysis of family factors was also undertaken for the 32 children. The focus in the data analysis was on the relationships between home and school, and the relationships between home and school and literacy outcomes.

The researchers tested three models of home influence in explaining literacy outcomes. These were (a) the family as educator, (b) the resilient family and (c) the home-school partnership. The models had differential effects on various aspects of literacy and readers are referred to the study for fuller details. However, none of the three models could account for more than 28 per cent of the variance in reading comprehension. Reading comprehension appeared to be sensitive to a range of influences: (a) parental behaviours that encourage literacy practice, (b) opportunities for contact with adults, (c) parent expectations, (d) stress and (e) organisation in the home.

There were five schools involved in the study. While each had its own distinct character, there was much similarity across the schools: individual classrooms were perceived to vary more dramatically than did the schools. School-based factors strongly related to reading comprehension were (a) practice with structured material, (b) direct teaching and (c) variety in literacy materials. When looking at the literacy gains made by children during the period of their study, Snow et al. gave a rating for children's classroom environment in each year of the study and a rating for the home environment. Children who were in classrooms that received high scores for both years of the study (n=5) made expected gains in reading comprehension. For children in classrooms who received low scores for both years (n=8), it was more variable – only three made the expected gains. And of the 15 children who were in classrooms which scored moderately over the two years, nine made appropriate gains and six fell behind. The picture for home environments was slightly different. There were 15 children who came from homes that scored highly, but two did not make the expected gains. Children who came from homes that scored lower (n=13) fared rather poorly, and only four made expected gains in reading comprehension over two years. A less than optimal environment at either home or school therefore apparently increases the risk of failure. Only three children from the sample experienced low scoring homes and classrooms, and none of the three made adequate progress in reading comprehension. All children from high scoring homes made adequate progress except those who had low scoring classrooms for both years. The findings suggest that *excellent* classrooms can compensate for less than ideal home conditions but that ideal home conditions cannot always do the same for poor classrooms. In the absence of excellence in the classroom the role of the home assumes more importance for literacy progress.

Parents in the Snow et al. (1991) study were generally concerned with their children's progress and worked with the schools to facilitate this. However, many parents' voices were silent and even absent from the institutional site of school. There was an expectation that the school would contact them if their child was experiencing difficulties academically. This expectation was not realised however. While parent contact with, and knowledge of, the

school was related to progress, this contact and knowledge was generally pursued by parents rather than the schools. When contact did occur between parents and teachers it generally improved teacher opinions and children's achievement. Unfortunately, given the impact on the achievement of children, as children got older and more severe academic issues could arise, the contact between parents and teachers decreased.

Another way of thinking about the home-school relationship is in terms of repertoires of practice which are developed and used in both sites. The first phase of the current study (Hill et al., 1998) followed children with very different preschool experiences through their preschool years and first years of school. The diversity of children's home environments and practices was in marked contrast to the similarities in their educational environments. This study found differences in the degree to which children's existing repertoires of practices and knowledge, gained in their homes and community settings, were useful or otherwise at school. At home their access to material and human resources for literacy varied markedly, reflecting contemporary inequalities in Australian society. Some children acquired more experiences complementary to educational institutions: children whose households had bookshelves, books, newspapers, desks, computers and other related paraphernalia associated with print literacy practices. These children began schooling with skills, dispositions and practices which enabled them to quickly catch on to how to 'do school'. These children learnt to anticipate questions, offered helpful reminders to teachers and were able to take advantage of what teachers made available. The researchers suggest that differences in the relationships between home and school repertoires of practice may explain why children did not progress at an even and equal rate in the early years of school.

Progress through school: The persistence of early differences

Most young children make remarkable progress in literacy learning before they enter school, and this continues once they start school. With this in mind, beginning school can be seen to be a learning transition for children rather than a learning beginning. As a result of the varied experiences they have, children's literacy skills at school commencement are very divergent. At school commencement, while many children can write their own name, understand the directionality of print and use their knowledge of stories to predict words in shared reading, others cannot (Byrne, Freebody, & Gates, 1992; Hill et al., 1998; Sainsbury, Schagen, Whetton, & Caspall, 1999). The range in children's competencies appears to persist and even widen as children progress through school. Masters and Forster (1997), in a study investigating early literacy in Australian schools, found that there is a wide range of literacy achievement evident among Australian children in Years 3 and 5.

Some children seem to acquire literacy skills much earlier than their peers and they do seem to be advantaged because of this when it comes to later school literacy achievements. The Bristol study (Wells, 1986) approached literacy from a language orientation and was interested in possible differences in linguistic development among children. This study found that children who were early developers tended to stay ahead. Wells commented that the most striking finding of the study was 'the very strong relationship between knowledge of literacy at age 5 and all later assessments of school achievement' (p. 147). Children with more literacy knowledge at school entry continued to do well at age 7. However, this accounted for only about half the variation and some children did better than their preschool scores indicated and others worse (Wells, 1986).

Hecht and colleagues (2000) were interested in the links between SES, individual differences in emerging decoding and reading comprehension skills, and children's later literacy skills. In their study they found that children's skills in phonological awareness, rate of letter naming and print knowledge in kindergarten were more predictive of later skills than children's SES. While SES did contribute to the variance in later reading ability, it was not a major factor.

What these studies suggest is that children who demonstrate precocious literacy-type behaviours at a young age will continue to develop competence in literacy skills as they progress through school and generally remain ahead of their peers in literacy knowledge and competency throughout their school careers. This appears to be a robust research finding supported by numerous studies (see for example Byrne et al., 1992; Hecht et al., 2000; Hill et al., 1998; Juel, 1988; Tizard et al., 1988).

In a longitudinal study following a heterogeneous group of 54 children from one school (low SES) in Texas, who came to school with few reading and writing skills, Juel (1988) investigated the fit of these children to the 'simple view of reading and writing'. In this view, reading is considered to be composed of only two factors – decoding and comprehension. A poor reader is either a poor decoder or a poor listener or both. A poor writer is either a poor speller, a poor generator of ideas or both. The results of the study supported these earlier hypotheses insofar as the probability of a child who was a poor reader at the end of first grade remaining a poor reader at the end of fourth grade was 0.88. Children who became poor readers entered first grade with little phonemic awareness and they did not approach the ceiling on this test until the end of third grade. Good readers on the other hand approached the ceiling at the end of first grade. Growth in spelling-sound knowledge was initially slow for poor readers also.

The study also found that there were increasing disparities in the amount of reading done out of school between poor and good readers, and attitudes to reading were generally polarised by the end of fourth grade. Good readers liked to read; poor readers generally did not. At the end of fourth grade, there were 24 children still in the study who had been in the bottom quartile of children at the end of first grade. All but three were still poor readers at the end of the fourth grade and 19 were also poor listeners. Of the children who were good readers at the end of first grade, 30 remained so at the end of the fourth grade, though four of them had dropped in equivalent reading ability. Children who were poor readers in fourth grade were neither good decoders nor good listeners.

Juel suggests a primary factor that held poor readers back seemed to be their lack of decoding skill. This contributed to them having less exposure to text, and the gap in exposure to print for poor readers and good readers increased with each year. There was also a widening gap in listening comprehension. Children who read more were exposed to more vocabulary and practice with decontextualised thinking and therefore building the skills needed for more complex listening comprehension. This is in line with the 'Matthew effect' posited by Stanovich (1986). He suggests that children's early experience of difficulty in negotiating the alphabetic code is a major factor in the increasing gap between different children's reading achievement. These early difficulties lead to unrewarding experiences with texts, less practice, less exposure and slow word-recognition processes which in turn lead to avoidance. These children fall further behind because 'many things that facilitate further growth in reading comprehension ... are developed by reading itself' (p. 364). The term Matthew effect relates to the reciprocity of processes identified in the above quotation; in other words, 'the rich get richer' (Stanovich, 1986, p. 380).

Poor reading skills also appear to have an impact on writing development. Juel (1988) further found that poor readers tended to become poor writers. Most poor readers were still telling and writing descriptions by the end of fourth grade. These children's ability to generate ideas for story-writing and oral storytelling did not appear to increase over the time of the study. Early writing skill did not predict later writing skill so well for this sample, as the correlation for writing at the end of first grade and writing in fourth grade was 0.38. Juel makes the suggestion that this was attributable in part to the emphasis in first grade at this school being on reading. This may explain the contrast to Blatchford (1991), who found that, while there were large differences in children's writing skills at school entry, those who showed more knowledge of writing at school entry tended to have higher writing scores at age 7.

Further evidence of the Matthew effect (Stanovich, 1986) comes from a longitudinal Australian study by Byrne, Freebody and Gates (1992). Conducted in three public schools in rural New South Wales, the study followed up an earlier cross-sectional study, where the authors investigated the proposition that students who were identified as poor decoders in Year 2 would become progressively more disadvantaged in reading as they progressed through school. The study found that children's literacy skills develop in diverse ways and not always linearly. However, consistent with other research findings, children who were good readers in Year 2 tended to remain good readers in Year 3 and children who were poor readers in Year 2 tended to remain poor readers in Year 3.

Byrne and colleagues demonstrated that early difficulties with decoding hampered children's school achievement and led to increasing differentiation in literacy achievement among peers. Four groups of children performing at different levels were identified. Two of these groups had consistent achievement at both early and later testing, one at a high level and the other at a low level. But what is of interest is the changes in some children's performance from the earlier to the later testing and the conclusions the researchers were able to make on the basis of this. Two groups demonstrated this variation in progression. One group (A) had adequate decoding skills and this seemed to compensate for lower language comprehension ability. The children in the other group (B) had average listening comprehension, which seemed to compensate for poorer decoding ability in lower grades. Of the two groups (A and B) with variable performance, one scored lower (group A) than the other (group B) on reading comprehension at Year 2 but not Year 3 testing. The comparatively poor performance of group A in reading real words and in comprehension in Year 2 did not foreshadow marked reading problems in Year 3. They did remain slow readers. These children outperformed group B in regular word accuracy across year levels. These children also improved relative to group B in reading irregular words. With nonsense word reading, however, group A declined and group B improved. Group A also scored lower than group B on literacy comprehension. Group B did not show considerable improvement as they progressed from Year 2 to Year 3. Their skills showed a decline in relative standing. The children in group B appeared to have poor decoding skills.

In terms of reading comprehension, a year level interaction with the two groups was found in the Byrne et al. (1992) study. In Year 2 group A scored lower in reading comprehension but in Year 3 they scored higher than group B. The authors suggest an interpretation based on lack of efficient decoding skills, namely 'the loosening of vocabulary controls in reading material that occurs after Year 2 may strain memory resources for sight words' (Byrne et al., 1992, p. 141) and with less developed decoding skills the comprehension performance of some children deteriorated.

The role of phonological awareness in literacy development

A Danish longitudinal study used an experimental approach to demonstrate the influence of phonological awareness on literacy development in children from preschool through Year 2 (Lundberg, Frost & Petersen, 1988). Lundberg and his colleagues investigated whether it was possible to improve phonemic awareness by training and whether this had an effect on subsequent reading and spelling acquisition. A general problem with studies on phonemic awareness, as the authors saw it, had been the lack of control for the possible influences of early reading ability. To take account of this the study involved control and experimental groups. It was predicted that the training in phonemic awareness would lead to enhanced metalinguistic skills but that general language functions would be unaffected. The researchers found that training did not seem to promote general language comprehension, nor affect the tendency to learn letters informally. It particularly affected skills requiring the manipulation of phonemes.

The children were provided with phonemic awareness training before they had any reading instruction. Both the experimental and control groups were given a pre-test on linguistic and metalinguistic tasks. The experimental group was given a training program from September through May. The control group was not given any training, but followed the regular kindergarten program, which in Denmark contributes to social and aesthetic aspects of development and avoids formal cognitive and linguistic training, including early reading instruction. The aim of the preschool training program was to guide children to discover and attend to the phonological structure of language. Listening games, rhyming activities, sentence and syllabic exercises and phonemes were aspects of the program (Lundberg et al., 1988).

At the end of May both groups were post-tested with the same instruments as in the pre-test. The children were also tested on their level of phonological awareness at the beginning of Year 1. They were tested for reading and spelling seven months into the school year and also in the middle of Year 2. On the preschool test of pre-reading ability only one child in the experimental group and two children in the control group showed signs of reading ability (scored > 0). At the post-test level 15 children in the experimental group and two children in the control group showed signs of reading ability (these children by now would be nearing age 7). The experimental group significantly outperformed the control group on all metaphonological transfer measures taken at the beginning of Year 1 and the effect at Year 2 was even greater. The experimental group outperformed the control group on reading words and spelling words in both Years 1 and 2 (Lundberg et al., 1988). This suggests the training effect had some degree of permanence.

The Lundberg et al. (1988) study provides a basis for questioning whether knowing letter names is the most important predictor of beginning literacy advancement. The control group on average knew more letter names at preschool, but the children in the experimental group were outperforming the children in the control group in reading and spelling ability in Years 1 and 2. Lundberg and colleagues found the level of phonemic awareness ability in preschool to be a powerful predictor of reading and spelling performance in school. They also found that phonemic awareness can be developed independently of reading ability, and even before it.

The role of visual processing in literacy development

Stanovich (1992) has noted that some children with high levels of phonological skill still experience difficulties with reading acquisition (while agreeing that phonological processing is essential to early literacy development). Reviewing the research, he suggests that individual differences in visual orthographic processing may be implicated.

Lazo and Pumfrey (1996) support the importance of visual processing when they suggest children need to recognise letter symbols before they can grasp the idea that these symbols have a particular sound. Adams (1990) states that it is not simply accuracy in letter recognition but the ease and fluency with which this is performed that is strongly correlated with reading achievement. Speed and accuracy may also indicate that good and poor readers are affected by individual differences in the processing of visual stimuli. This is based on research findings that indicate that good and poor readers tend to show differences in the speed with which they can name not only letters but also colours, objects and numbers. Adams suggests speed and accuracy may also reflect the level of practice a child has had; thoroughness of learning leads to less effortful processing. This automaticity leaves room for attention to seeing whole words as a writing pattern rather than attending to each individual letter which then must be combined into a unit.

One study suggests that visual processing continues to be important beyond the early years of literacy acquisition. In a seven-year longitudinal study Badian (1995) found that visual matching was strongly correlated with reading, spelling and reading comprehension in higher grades. Indeed the correlation was stronger than for earlier grades. It was suggested that these findings are related to distinctions between the early structured process of learning words and the later process of recognition of whole words, which involves the increasing knowledge about orthography that the learner has acquired.

Literacy acquisition involves multiple processing skills

Lazo and Pumfrey (1996) investigated the simultaneous contributions of four types of metalinguistic skills to children's literacy. Four general types of metalinguistic skill were considered important for children's literacy development:

1. phonological awareness – knowledge of the constituent sounds of a language
2. print awareness – awareness of the representation of a language
3. syntactic semantic awareness – awareness of structural features of sentence context
4. pragmatic awareness – knowledge of meaning relations

Sixty children in nursery school with an average age of 4.6 years and who were unable to read at that time were tested at 4.6, 5.0 and 5.7 years of age. They were tested for these metalinguistic abilities and reading and spelling. At age 6.0 they were given a set of formal reading and spelling tests which were taken as measures of their reading and spelling attainment. Tests of children's verbal memory and IQ were conducted in order that the significance of metalinguistic tasks to attainment could be demonstrated independently of overall intelligence and verbal memory. It was found that a combination of phonological awareness, print awareness and syntactic semantic awareness was important in children's reading and spelling, as opposed to mastery of individual skills (Lazo & Pumfrey, 1996).

From age 5, children's exposure to reading and spelling activities was shown to be linked to their later progress in these skills. It was reported that children who were able to show an awareness of sounds in words and print concepts when 4.6 years old were quicker in learning to read and spell at 5 years than those children who did not. Print awareness, it seems, is essential to the early continuing development of children's literacy and how well children learn to read and spell. In this study, it was found that print awareness was the earliest and most stable predictor of successful spelling (Lazo & Pumfrey, 1996).

Literacy development at school: From code to meaning

It appears there is a shift in the relative importance of specific literacy skills from code-breaking in the early years to comprehension and vocabulary in later years. Some support for this is provided by Badian (1995), who followed a cohort of children for seven years. She investigated predictors of reading and spelling at each year level, whether predictors changed as reading experience increased, and which preschool measures were predictors of phonological awareness at Years 1 and 3. It was found that in earlier grades there were different predictors of reading and spelling than in later year levels. Of the preschool measures she employed only letter naming and visual matching were consistently correlated with reading and spelling at all grades (1-6) when verbal IQ and age were controlled for. Phonemic awareness showed a diminishing effect and was only strongly predictive of reading in the early grades.

A study by Chall and colleagues (1990) following the same cohort of children as Snow et al. (1991) investigated the changing requirements of school literacy. Factor analysis by Chall and colleagues revealed two broad factors in literacy achievement: recognition and meaning.

There was a shift in the importance of these two factors from the early years of school to later primary and there was an associated shift in the classroom pedagogies associated with student achievement. Gains in recognition were associated with more structured activities while gains in vocabulary were associated with more varied and challenging activities. The researchers argue that children in younger grades need a code-emphasis, whereas children in later grades need an explicit meaning-emphasis. In this study classes with a 'good literacy environment' (e.g. more varied activities and a critical literacy emphasis) showed a significant positive relationship with gains in vocabulary. Word recognition, however, was found to have significant negative relationships with a 'good literacy environment'. To explain this negative relationship it was proposed that perhaps the use of basal readers and other structured activities provide both more support for word recognition and more regular practice. This is consistent with findings on the importance of speed and fluency in early literacy acquisition (see above). The development of these skills is dependent on the regularity of reading practice.

Discussing the changing literacy requirements of school, Chall et al. (1990) suggest that the major reading task for children in Years 1 to 3 is learning to recognise words they already know (a task which itself comprises a number of beginning reading tasks). After this time reading begins to be used as a tool for learning. The task of reading will involve unfamiliar texts, reading material will be more complex and cognitive demands will be greater. A student whose decoding, fluency and word recognition are weak will find it increasingly difficult to meet the demands of reading at that point. A five-year follow-up by the researchers of 26 of the 30 children revealed that students now in Year 11 had reading scores which were considerably below norm, and some as low as the 25th percentile.

Chall et al. (1990) found evidence of a 'literacy slump' in the later years for some students who had previously been competent in school literacy. Around Year 4 onwards some measures (word meaning, word recognition and spelling) of children's reading achievements appeared to decline relative to grade norms. Decontextualised aspects of reading decelerated earlier and faster than contextualised aspects (reading comprehension). Chall suggests it was the children's slow acquisition of an academic vocabulary, their relative weakness in recognising less familiar words and, for the below-average readers, their lack of fluency that contributed to these students falling behind. Analysis of the various measures of reading revealed that in later grades (6 and 7) word meaning scores were highly correlated with silent reading comprehension. Also the children lacked knowledge of less common, more academic words, which seemed to hinder their reading and writing development.

The study also looked at children's writing development. The scores on the writing tasks tended to increase for all children through Year 4 or Year 5 but slowed down or decelerated for Years 6-7. There were some differences noted, however, for the narrative and expository tasks. Children who were below-average readers achieved similar ratings for narrative writing to the above-average readers in Years 2 and 3, fell a little behind in Years 4 and 5, and then caught up to the above-average readers in Years 6 and 7. For expository writing the picture was somewhat different. Similar results were achieved by both below-average and above-average readers in Years 2 and 3. In subsequent grades (4 through 7), however, the below-average readers received consistently lower ratings (Chall et al., 1990).

It was found that students who were provided with challenging texts to read made gains in *reading*, and this was particularly so for below-average readers. Challenging texts were identified by looking at the relationships between the level of difficulty of the text and the reading ability of the individual child. Library visits and a variety of materials were significantly positively related to gains in *reading comprehension*. Word recognition, knowledge of word meanings and reading comprehension are separate aspects of literacy, and Chall et al. (1990) found that what fosters the development of one of these aspects does not necessarily foster the development of the others.

Curriculum, pedagogy and cultural practice: A complex relationship

A study undertaken in Britain by Tizard and colleagues (1988) investigated factors at school and home that affect children's school attainment and progress. The sample was described as working-class and was drawn from the inner London area. The researchers drew a distinction between attainment, which they considered to be a cross-sectional concept, and progress, which was considered to be a longitudinal concept. They found that home variables influenced children's preschool attainment (as distinct from progress), but that school and teacher variables were more important than home variables for explaining differences in children's progress at school.

The particular school a child attended had its largest effect on writing progress. For reading, the school difference was most marked in the reception year and the researchers suggested it was this year perhaps where early assistance and attention to the progress of children in reading was important, especially as the correlation between early and later reading attainment became more evident at the end of the reception year (Tizard et al., 1988). Hill and Rowe (1998), investigating school effectiveness in Australian classrooms, found that, in terms of progress in literacy achievement, 'the identity of the class in which children are placed appears to be "the key determinant"' (p. 325).

In the Tizard et al. (1988) study, the school variables that influenced children's progress in a major way were the range of '3R' curriculum taught to the children, and the teacher's expectations of the children. Indeed, there was a consistent relationship between teachers' expectations of individual children and the range of 3R curriculum taught to these children. Behaviour problems were not independently related to progress once other factors such as teacher expectations were taken into account. When questioned on curriculum items not covered by them, some teachers responded that the concepts were too difficult for children of that age, and others that the concepts were too difficult for the children in the particular school. The influence of students' cultural background on teacher expectations was indirectly indicated in this study by teachers' attitudes to parents. Teachers often held negative views about Afro-Caribbean parents and there was poor communication between schools and homes. Low expectations may lead to low attainment, as the children in the sample were well below the national norms in reading (Tizard et al., 1988).

A longitudinal, action research study by Munns¹ and colleagues (1999), focusing on the classroom teaching practices of teachers of Indigenous students in rural and urban Australia, found that interpretations of the behaviour, actions and reactions of Indigenous students formed by non-Indigenous teachers impacted on student achievement. The study was informed by the knowledge and experiences of Indigenous people as well as by previous research conducted by Munns (1996 cited in Munns et al., 1999). Information from both these sources confirmed that Indigenous students were engaging in culturally-based oppositional behaviour directed at the curriculum. The oppositional behaviour was based on the need to avoid shame and a reluctance to take risks. Munns et al. highlighted the fact that there was the potential for risk and shame for Indigenous students in 'good literacy teaching'. They noted that students struggling with their work might be concerned about being wrong and therefore being shamed in the class. This would be an embarrassment for both the student and her or his peers. Alternatively students who were managing reasonably well may have found that their success might have made them a 'big noter' and brought shame on others in the group who were not doing so well. Consequently students might have opposed schoolwork and chosen

¹ This study was conducted with high school students. However, the cultural principles involved form an important part of any discussion about the impact of school practices on literacy achievement.

solidarity over achievement. Students' work practices, task compliance and behaviour were also influenced by the relationship they had with the teacher. A friendly relationship with the teachers was significant in Indigenous students' achievement.

Munns et al. suggested that relationships at both a personal and pedagogical level are therefore necessary for improvements in Indigenous students' literacy learning at school. When literacy and language work were conducted in the classroom, the interplay of student and teacher responses was termed the *pedagogical literacy relationship* and it was within this relationship where opportunities for change were identified. One way of doing this was to reinterpret what the teachers reported seeing in their classrooms from an Aboriginal perspective. It was this process that revealed that a consideration of the students' Aboriginality was not seen to be a significant factor in the classroom. For example, the Indigenous researchers noted that Aboriginal English played a crucial role in oral literacy events. When the Indigenous students felt safe and secure in the classroom they participated using Aboriginal English. Teachers interpreted this differently and saw this kind of participation as inappropriate. However, Aboriginal English is an expression of identity for Indigenous students (Eades 1995 cited in Munns et al., 1999). Acceptance of Aboriginal English by teachers implies therefore an acceptance of the identity of the student, and therefore the student's Aboriginality.

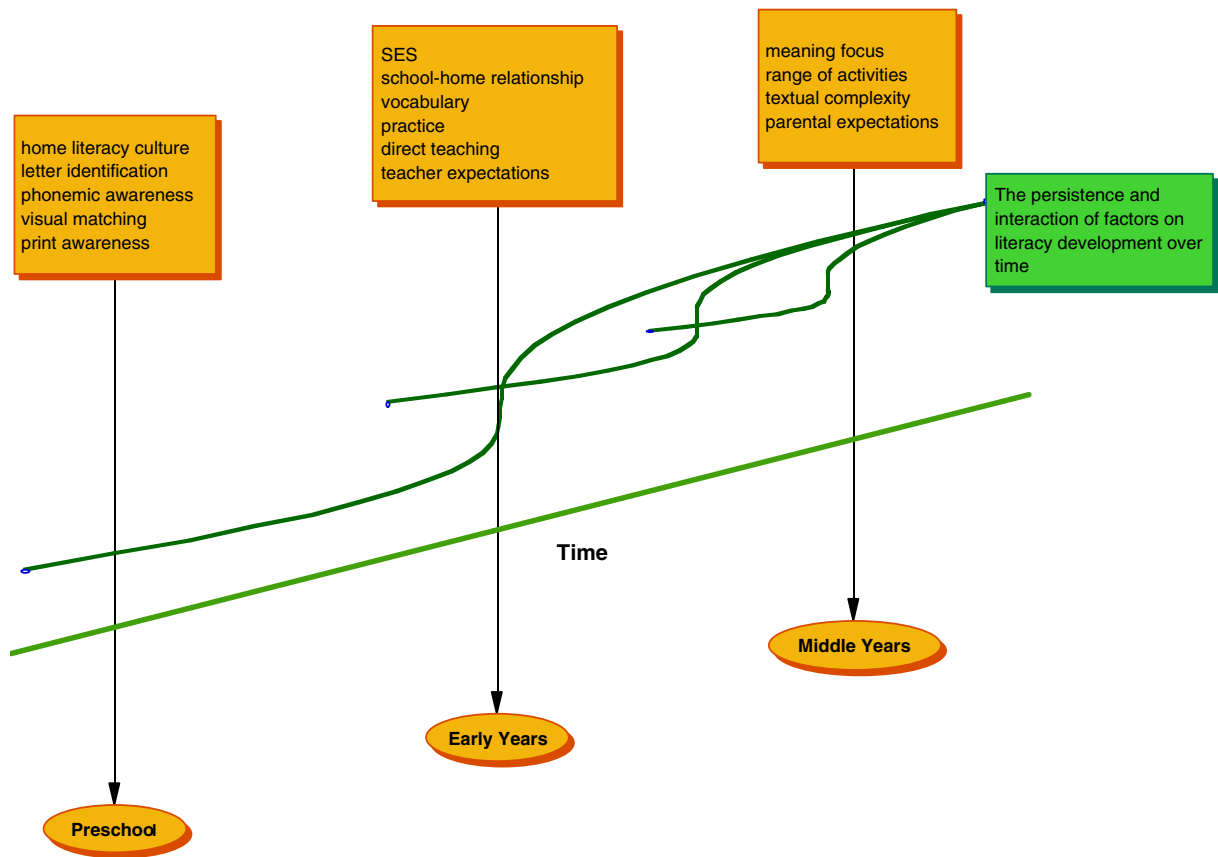
There was a bi-directional reading of classroom practices in Munn's study. As well as the Indigenous researchers becoming aware of how teachers interpreted Indigenous students' responses, teachers became aware of how Indigenous people interpret their actions and behaviours. Before the research began, the researchers held the view that non-Indigenous teachers simply ignored issues that impacted on the level of achievement of Indigenous students in their classroom. What this project revealed was that the problem was more a lack of knowledge, appreciation and understanding about the concept of Aboriginality and Indigenous cultures by non-Indigenous teachers. The study resulted in an alteration of thinking for both non-Indigenous teachers and Indigenous persons engaged with the project. Greater understanding developed of the action and thinking of others as a result of the analysis of classroom practice.

Conclusion: Broad trends and individual trajectories

Taken together, these studies indicate some broad trends in children's literacy development whilst reinforcing the diversity of individual children's developmental trajectories. It should be stressed again that these studies reflect particular definitions of literacy and research practices and that these definitions and practices influence research design and thus what can be discovered. However it is possible to draw some conclusions about which factors impact on children's literacy development.

The first point to make is that different factors seem to be important at different stages of children's progress into and through the early and middle years of primary schooling. At the same time, factors which are important in the early years maintain an effect on later development. These two underlying processes help to explain both the broad trends in literacy development and the diversity of individual children's achievement at any stage. The factors which are operating will be different according to the context (e.g. home/school), the specific site (e.g. individual teacher's pedagogy) and the stage (preschool, early years, middle years). For each child the ways in which these factors interact will be different. A framework for understanding the findings of the longitudinal research is represented below in Figure 2.

Figure 2
The persistence and interaction of factors on literacy development over time



The research indicates that different factors are crucial for literacy development at different stages. We have chosen to divide the timespan into three stages which relate to the child's movement into and through the educational system: preschool, the early years and the middle years. The transition to school marks the dividing line between the first two stages; the dividing line between the second and third is not so clear as there is a more gradual change in the literacy demands that school makes on children. Some of the factors which are important at each of these stages are indicated in the boxes. These are drawn from the research studies which have been reviewed in this paper.

The research indicates that early differences in literacy achievement tend to persist, which suggests that factors impacting on emergent literacy development maintain their influence on later progress. This is represented on the diagram by the extension of the 'preschool' developmental line into the later stages. However, entry into school brings a new set of factors into operation. An example is the interaction between the home and the school which features in many studies as an important influence on children's success in acquiring literacy at school. This relationship has multiple dimensions: the usefulness or otherwise of the child's preschool repertoire of practices in the new classroom setting; the effectiveness of communication between parent and teacher; and the teacher's perception of the child's cultural and socio-economic background. These new factors interact with the child's pre-existing literacy dispositions and competencies to enhance or obstruct progress. This interaction and persistence of factors is represented on the diagram by three intersecting curved lines.

Decoding is a key literacy goal in the early years of school. Failure to achieve fluency in decoding continues to impact on children's subsequent progress. This persistence of early

years factors is represented on the diagram by the extension of the 'early years' line into the next stage. The middle years of primary school seem to make new demands on children's literate competencies and bring a new set of factors into play. This is indicated in the research by cases of children who have been successful in literacy in the early years but experience a 'slump' in middle primary. One important factor that impacts differently on children at these two stages is the teacher's instructional approach. Pedagogies that appear to be effective in early literacy instruction (such as structured phonics programs) may not facilitate development in the middle years. In the later years, the use of more challenging texts and a focus on their meaning is associated with achievement.

As the diagram indicates, factors which were important in the early years maintain their influence; however they interact with this new set of factors in complex ways. For example SES becomes noticeable as a factor, first as a factor in children's literacy development after school entry. One of the ways in which SES impacts on children's literacy achievement is by influencing teacher expectations of children. If, as the research indicates, it is important for children to be exposed to challenging texts and critical analysis in the later years, then teacher's expectations of children's ability to participate may become crucial at that time.

In short, the research suggests that children's literacy development is influenced by multiple factors which interact with each other in complex ways. It is possible to imagine an optimal trajectory for a child in which all possible enabling factors were operating and there were no constraining factors. The child possessing the right combination of phonological and visual processing capacities, from a middle-class home with a strong literacy culture, who attended a school where there was structured reading instruction in the early years and a challenging literacy curriculum in the middle years, should show optimal progress in literacy. However in every study there were exceptions to the general patterns. This suggests the importance of attending to the ways in which individual children experience the literacy practices and learning opportunities afforded by homes and schools. For most children there will be a mixture of enabling and constraining factors operating on their literacy development.

In the section that follows we turn to the issue of teaching practice. On the basis of the research studies reviewed above and of the theoretical perspectives discussed in Section 1, we suggest some practical strategies for facilitating children's literacy development.

Section 3: Implications for teaching

In the light of knowledge gained from theory and research, how should Australian schools and teachers respond to the challenge of facilitating literacy development for every child? This question has been asked many times and answered in many different ways over a long period. However, a renewed evaluation of literacy teaching methods and resources is warranted in view of the changing nature of the social landscape within which literacy is practised and taught. This includes the cultural complexity of our student populations and the challenges posed by new technologies.

Literacy instruction

Good practice in literacy instruction is the focus of so many policies, texts and guidelines that it is not necessary to provide a comprehensive set of recommendations here. Rather we focus on issues that may represent a modification or shift in literacy teaching as it is currently practiced in Australian schools. These issues are phonemic awareness training; intervention in the middle years of primary school; an extension of the notion of explicitness; disengaging literacy learning goals from classroom management goals; and mobilising social interaction.

Research repeatedly finds that children's early knowledge of the sounds in language is associated with later success in reading. Explicit instruction in phonemic awareness and phonics is called for – but it is the combination of skills rather than phonemic awareness alone which the researchers take to be critical for children's literacy development (Adams, 1990; Juel, Griffith & Gough, 1986; Lazo & Pumfrey, 1996). Stanovich (1986) has suggested that there is a 'bootstrapping' or reciprocal causality involved in early skill acquisition. For example, the acquisition of phonemic awareness helps acquisition of letter knowledge, which in turn impels further acquisition of phonemic awareness skills. Adams (1990) notes that it is children's conscious, analytical knowledge of phonemes rather than just a working knowledge that is important. This means teachers should assist students to analyse the sound structures of words. Print literacy activities need to be supplemented with oral and aural activities in which the child actively manipulates sound structures of words. For instance strategies might be removing initial/terminal sounds, finding 'hidden' words (e.g. 'bun' in 'bunny'), or responding to each sound/syllable in a word (e.g. by clapping or putting counters on a board). These examples are taken from a description of an early intervention program (Louden et al., 2000, p. 165).

Early intervention reading programs are now commonplace in Australian schools (Louden et al., 2000). However, the finding of a 'literacy slump' for some children in the middle years of primary school, while needing to be confirmed with further research, does suggest that early intervention may not be sufficient. Chall et al. (1990) suggested that intervention in these middle years should shift from a code emphasis to a meaning emphasis. Vocabulary building activities and working with challenging texts were two strategies mentioned.

Longitudinal studies continue to reinforce the importance of providing children with plenty of exposure to books from the early years and this has been well accepted in Australian schools. Children need more than exposure however; they need to be asked to *think* about texts. Activities that support this thinking include inference questioning and reporting (Chall et al., 1990). The integration of reading and writing in the curriculum is also supported. Snow found that a fragmented approach to the teaching of literacy occurred in the classrooms she studied in the United States, resulting in the loss of opportunities to practice and consolidate literacy skills (Snow et al., 1991). The recommendations of Chall et al. (1990) for writing development, while suggesting there is a need for more practice, also suggest a focus on form rather than content.

Teachers will be familiar with the oft-repeated call for explicit instruction in literacy. This continues to be an important strategy for assisting all students to understand which literate practices are valued and how to participate in these. However this review suggests that the notion of explicit teaching needs to be extended in two ways. Firstly, an expanded definition of literacy to include a broader range of meaning-making resources and strategies (see Figure 1) will challenge teachers whose explicit instruction has focused on a narrow range of written genres. Educators will need to learn the features of new and multi-modal text types in order to be explicit about them. Even more challenging, we may need to face the possibility that the proliferation of new kinds of 'hybrid' texts may outrun attempts to codify these into genre typologies. The New London Group (1996) suggested an approach which maintains an emphasis on explicit instruction while confronting this unpredictable future. They termed this approach 'learning as a design process' (Cope & Kalantzis, 2000).

Taking a design approach to literacy means describing and analysing texts and the practices involved in producing them (New London Group, 1996). The aim is not for students to reproduce model texts or participate in routinised practices. It is rather for students, through understanding how texts and practices are designed (and why), to be in a position to take on the role of designer, working with the resources of language and other systems of representation. Learning thus begins with some specific literacy practice which is explicitly described and modelled by a teacher, moves through an analysis which seeks to explain how the practice is designed to serve particular social purposes, and culminates in learners taking on the design role, and in the process transforming practice.

The second way in which the explicit teaching model needs to be expanded is by incorporating a socio-cultural orientation to learning. This means being aware of the social relations and purposes of the classroom, of the school's surrounding communities and of the broader social context. In the section below we argue that for this to occur educators need to actively work at connecting literacy and learning practices across the sites in which students live and work.

A problem with many literacy programs and policies, even those that are based on sound research evidence, is that they assume that teachers and students are solely focused on the learning of each individual student. However literacy teaching at school serves many purposes and these are not all to do with literacy learning (Cairney & Ruge, 1998; Freebody & Ludwig, 1995; Kamler et al., 1994). Some of these other purposes include behaviour management, settling children into school routines, moulding the class into a 'corporate body', and reinforcing social relations (e.g. adult/child, gender). This means that literacy competence and competence in performing the student role can become blurred. This suggests that teachers need to distinguish the goals and purposes of their literacy programs from the goals and purposes of their classroom management. They need to consider the possibility that some students' 'failure' to adopt the student role successfully may jeopardise their ability to demonstrate their understanding or literate competence.

The studies reviewed in this paper come from a range of research traditions, cultural locations and historical contexts. A recurrent theme, however, is that literacy learning occurs in social contexts of purposeful interaction. This means that teachers need to work with and through the social relations of the classroom community to create opportunities for meaningful participation, or capitalise on the opportunities that already exist. Some researchers focus on adult-child communication, particularly those who have compared parent-child with teacher-child interactions. Teachers are encouraged to be effective conversation partners for children, and this means (according to Wells, 1986) taking each child seriously, listening carefully, and ensuring that questions and suggestions are consistent with the child's communication intentions. It may be argued that these are well-known and obvious strategies. However, a recent review of research on classroom interaction (Nichols, 1998) found a consistent pattern

of teachers dominating classroom talk regardless of how this was assessed (number of utterances, length, initiatory moves, control of topic).

Teachers may reasonably object that it is not possible to act as a conversation partner for every child in a class. Wells admits that this kind of teaching is best done one-to-one or in small groups (1986, p. 120). Another approach is to use peer talk to accomplish literacy learning goals. It has been found that student peer talk can have the features which Vygostky (1978) has suggested are characteristic of a scaffolded expert-novice interaction (Des-Fountain & Howe, 1992). In early years' classrooms peer talk typically happens around play activities and this talk allows children to develop a wide range of oral language and cognitive skills. McGregor and Meiers (1991) observed two six-year-old boys playing with *LEGO*TM and provide a long list of the language skills they demonstrated, including 'exchanging information', 'explaining reasons for actions' and 'storytelling'. In later years, free play activities tend to disappear from the curriculum and children's peer talk can become a covert discourse running alongside the official discourse of the classroom (Sola & Bennett, 1994). Teachers, it is argued, need to work through rather than against these social agendas (Dyson, 1993; Gutierrez, Baquedano-Lopez, & Turner, 1997) by encouraging open discussion and negotiation of the social relations of the classroom. This involves being aware of gender and cultural and linguistic influences on students' participation.

Connecting practice across sites

If we are to understand the child as a member of multiple communities, what difference does this make to teaching and learning practice? As stated above, it can be an argument for explicit teaching in order to ensure that every child understands exactly what is required to succeed in valued curriculum tasks. However, this does not necessarily address the issue of children's diverse knowledge and experiences or their multiple social identities, an issue raised by Dyson:

[T]eaching children the so-called discourses of power ... does not challenge the too-neat boundaries drawn between children, languages, and cultures – that is between 'home' and 'school', 'popular' and 'literacy', 'mainstream' and 'nonmainstream', nor does ... [it] reveal the individual child, situated amidst diverse social worlds ... (Dyson, 1993, p. 223).

She advocates a shift in the notion of curriculum away from a fixed set of skills/knowledge, to a dynamic interplay of knowledge/skills from all the 'worlds' the child occupies – the 'permeable curriculum'. Her argument is that children already make connections between these worlds, bringing together languages, genres and domains of knowledge in creative and unpredictable ways. The task for teachers is to acknowledge this process and mobilise it for learning.

Perhaps the starkest example of difference between home and school worlds is that faced by Indigenous rural populations such as Indigenous Australians and the Inuit in North America. A challenge for literacy educators working in such communities is how to value the community's cultural knowledge and representational practices while making available the knowledge and practices of the dominant culture.

Harris (1990) advocates 'bicultural' schooling for rural Australian Aborigines. The bicultural model of learning is based on the notion that language, knowledge and cultural practice are inextricably related. This means that Aboriginal languages and cultural practices may not be appropriate mediums for learning Western forms of knowledge or vice versa. Therefore it is not sufficient simply to bring Aboriginal knowledge into the classroom and to use Aboriginal languages for instruction. The ultimate goal is the 'indigenisation' of literacy; that is the

appropriation of writing and reading for Aboriginal cultural practices in ways seen as relevant by Aboriginal people. Without this embedding of literacy into community ways, Harris claims that the achievement of non-urban Aborigines will continue to be low. Glover (1999) discusses the invasiveness of dominant culture and how this has led to alienation and marginalisation for Indigenous students. She suggests that a strategy of mediating and facing cultural tensions in the classroom can lead to increased participation by Indigenous students.

‘Partnership’ is the term generally used to define the ideal relationship between schools and homes. The concept of partnership is predicated on the sharing of responsibility by two sets of adults (teachers and parents) for the development of a child. In practice this can amount to what Serpell (1997) called a ‘handover’ relationship where the adults concerned agree to allocate to each other different and separate roles in relation to the child. However, if we take a systems perspective, the home and school are not separate (though they are complementary) sites. They are systems within broader systems, which relate in complex and dynamic ways. Information and practices flow across system boundaries, whether this is a supported process or not.

Blackledge suggested that ‘It is important that schools and policy-makers identify the social functions, meanings and values attached to literacy in particular communities’ (Blackledge, 2000, p. 5). This suggests that partnership processes, to be effective, must involve continuous sharing of information throughout dynamic networks. Yearly parent-teacher interviews, which Maclure and Walker (2000) have suggested are so highly ritualised as to be relatively content-free, are unlikely to satisfy this requirement. Cairney and Ruge (1998) encouraged a multi-stranded approach to maximise the connectedness between the school and its community. Information channels need to reach beyond the school newsletter to include local print media, community radio and the Internet. Information flows from home to school should be as valued as the reverse. For instance, ‘home literacy artefacts’ could be brought to school and included in children’s portfolios. Cairney and Ruge warned that when textual products were exchanged between sites they should be ‘seen as cultural artefacts embedded within the home and school practices from which they have been used. Careful consideration of the socio-cultural significance of such texts is important’ (p. 69). This points again to the need for teachers to develop socio-cultural awareness.

These researchers also drew attention to the needs of NESB families. They suggested programs specifically targeted at older siblings who are often responsible for assisting their younger brothers and sisters with school literacy tasks. The provision of interpreters was also mentioned as a priority.

Parent involvement programs may attract those parents who share teachers’ culture, language and educational background (that is, middle-class parents). Cairney and Ruge (1998) suggested that any potential initiatives be first evaluated for their inclusiveness and provided a set of questions for this purpose. Some of these questions are:

- Who has initiated the program?
- What will the content be?
- Who will share what with whom?
- Who exercises control?

A systems approach may be particularly useful in addressing the needs of disadvantaged families. Good and colleagues (1997) as consultant researchers conducted an ‘ecological assessment’ before considering how best to increase the involvement of ‘low-income’ families in an urban school. In doing so they developed detailed knowledge of the social networks, information resources and geographic features of the families’ community. Their aim was to develop ‘organisational structures that would provide roles for an active group of parents, based on their own skills and strengths’. They recognised this was a gradual process

which required ‘long-term investment in the setting’ (Good et al., 1997, p. 287). Specific strategies included telephone trees, family nights, a citizen of the month from each class, a middle-school transition program, a parent advisory committee, and a ‘council of elders’. They encouraged school administrators to communicate respect to parents, for instance by inviting ‘local bank representatives, rather than a drug counsellor, to present information at a special event’.

One school’s approach demonstrates that collaboration is possible even on contentious aspects of education (Chandler, 2000). Responding to parent dissatisfaction with the teaching of spelling, a teacher-research group surveyed parents to discover their views about spelling and the strategies they used to assist their children. The parent strategies were collected and disseminated, thus demonstrating that parents’ expertise was valued. Parents’ demand for a separate grade for spelling on the report card was initially resisted by the teachers; however they decided to include a checklist to give parents more information about their child’s progress in spelling. Chandler comments that the initiative was successful in finding ‘common ground’ between the two groups of stakeholders.

Supporting teachers to manage diversity

Teacher-focused strategies are those aimed at changing the teacher as a thinking, acting, subject. Specific strategies include recruitment, preservice training, professional development and reflective practices. Recruitment of teachers from diverse cultural and linguistic backgrounds is seen by some as a means of addressing the cultural gap between communities. African-American teachers, for instance, have been credited for challenging deficit notions of black students and their families (Edwards, 1994). Purcell-Gates wrote of ‘the power of teachers who, as cultural insiders, knew that their students could learn and set about helping them do just that’ (1995, p. 193).

Preservice training should include a compulsory subject on home-school relations, according to Cairney and Ruge (1998). Such a subject would address the ‘social, cultural and linguistic diversity of families’ and ways to build ‘more effective relationships between home and school’ (p. 59). Cultural awareness training is also recommended by those concerned about Indigenous students’ literacy achievement. Munns et al. (1999) discuss how miscommunication can occur when teachers are unaware of Indigenous Australian cultures. Many non-Indigenous teachers, for example, are unfamiliar with the cultural concept of shame and the associated ‘risks’ this entails for Indigenous students. However, such concepts have a strong influence on students’ classroom participation and learning or lack thereof. The authors call upon teachers to inform themselves of, and appreciate, the diversity of Indigenous students’ linguistic and cultural backgrounds in order to teach productively for this student group.

Demonstrating respect for communities includes having high expectations of their ability to learn and adapt. Teachers’ low expectations can affect caregivers as much as their children. It is also true that in some instances sensitivity to imposing mainstream values on minorities can prevent teachers from providing models of practice. In one study (Edwards, 1994) it was found that teachers were reluctant to encourage African-American mothers to change their story-reading to a more interactive style for two reasons: either they felt that these mothers’ own low literacy skills would render the task too difficult, or that providing a model was a form of cultural imposition. An African-American teacher researcher convinced the teachers to produce a video modelling the desired reading practice. After viewing the video and practising the reading strategies, the mothers’ ‘story talk increased in complexity’ (Edwards, 1994, p. 192). They then produced videos of their own practice for other parents to use. These videos significantly challenged teachers’ initial low expectations of African-American mothers’ literacy skills and commitment to improving their practice.

Teachers can be ‘agents of socio-cultural change’, according to Freebody and Ludwig (1995, p. xxviii), but this requires an awareness, not only of their students’ cultures, but of the economic and political context of schooling. In other words teachers need to understand which social and institutional arrangements contribute to the marginalisation of some groups and the devaluing of their cultures and, by extension, their language and literacy practices. This is a much broader and potentially more challenging agenda for professional development than cultural awareness training. They argue strongly that teachers need to be involved in analysing their practices and to this end they need to be equipped with the tools of analysis. This recommendation arises from classroom observations which found that interactive routines discouraged student engagement (see also Wells, 1986).

Heath (1983) suggested that teachers’ analysis of their practice should extend beyond the immediate classroom situation to the mainstream communities of which teachers are members. Her study illustrated the explicit teaching of tools of analysis to teachers, in this case the tools of ethnography, and the use of these tools for investigating mainstream norms of literate and social conduct. In this way, the teachers in Heath’s study reached an understanding that these norms were socially constructed and reinforced rather than natural. This enabled teachers to see non-mainstream children’s ways of participating as sensible and appropriate within their social contexts, rather than simply as deviations from a standard.

Conclusion

From all the studies reviewed for this chapter, we have drawn what we see as the most significant implications for educational practice. We have in particular highlighted approaches to literacy instruction; strategies for connecting practice across the sites of schools, homes and communities; and ways of supporting teachers to manage their diverse student populations so that learning is facilitated for all students regardless of cultural, social or language background.

Some of the strategies described here can be used by individual teachers working in their classrooms; others require a whole-school approach or system-level response. This means ensuring that the teaching force of the future is representative of a culturally and linguistically diverse population. It means developing in current and prospective teachers these understandings: that literacy is about using multiple representation resources to design texts; that literacy is a social practice undertaken within social relations; and that the literacy practices of homes and communities are important sources of skills and knowledge for students. It means using research to inform instructional approaches so that they cater to the literacy needs of learners at different levels of development. Only such a multi-stranded approach can adequately harness the many factors that contribute to children’s literacy development.

4. Almost Ten, What Then?

School English Literacy Five Years On: A Quantitative Analysis of Literacy Outcomes

William Loudon and Janet Hunter
Edith Cowan University

Study context

100 children turn 10 began as a short-term, case study project, following children from a range of prior-to-school experiences into the common experience of a first year of formal schooling. Children and families were selected from the five research sites to represent the diversity of prior-to-school contexts – family care, long-day childcare, part-time preschool, full-time preschool – and a range of social and geographical circumstances. The design of the study gave priority to deep encounters with a small selection of children and their families, rather than a larger sample with claims to statistical representation of the Australian population. The phenomenon of greatest interest to the researchers was the cultural continuity (or discontinuity) from home to school. Encouraged by the Department of Education, Science and Training (DEST), the funding agency, to expand the quantitative goals of the study, the research team chose a set of language assessment tasks consistent with their research interests. Some of the assessment tasks used environmental print knowledge thought likely to be available equally to children of all social and cultural circumstances; other items were closer to the formal school reading curriculum in the first year of schooling. The links between children's home circumstances and their school circumstances, and the impact of these cultural continuities and discontinuities on performance in the assessment tasks in the first year of schooling in 1997, were documented in the 1998 report *100 children go to school* (Hill et al., 1998).

The second phase of the project (1998), a self-funded round of assessment towards the end of the second year of schooling, used the same assessment tasks as in 1996 and 1997 except for environmental and everyday print. Only quantitative assessment data were collected in 1998. The third phase of the project, again funded by DEST, allowed for the collection of both quantitative assessment data and qualitative case study data in the homes and schools in 1999 and 2000. The 1999 round of assessment eliminated concepts about print and introduced new measures of sight vocabulary, writing, spelling and computer literacy. In 2000, the letter name assessment was eliminated and a new measure of reading behaviours was introduced. These domains, and the assessments used to measure them in each of the three research phases, are listed in Table 3 and discussed in the sections following.

If longitudinal studies are of two broad types – studies that start out longitudinal and studies that end up longitudinal – this study is firmly in the second group. This chapter begins with an analysis of what most children could do after five years, followed by an account of the relationships between early assessments in 1996 and the outcomes in 2000, and a discussion of some children's individual trajectories. The final section of the chapter explores the relationships between the assessments undertaken for this study and children's performance against the nationally agreed Year 3 literacy assessments.

Five years of literacy learning

As we reported in *100 children go to school* (Hill et al., 1998), most children attending school continued to make substantial progress on a range of measures of literacy domains. Over the five-year study, 12 domains of literacy were assessed and in several domains there were a number of measures used to document development over time. Table 3 reports on the literacy domains.

Table 3
Domains of assessment, 1996-2000

Phase 1		Phase 2	Phase 3	
1996	1997	1998	1999	2000
1. Environmental Print				
2. Everyday Print				
3. Concepts About Print				
4. Letter Knowledge				
5. Phonemic Awareness				
6. Book Levels				
7. Sight Words (Clay)			Sight Words (Burt)	
8. Writing (Clay)			Writing (MSE)	
9. Reading Strategies (1)		(2)	(3)	(4)
10.	Retelling (1)	(2)	(3)	
11.			Spelling	
12.	Wiggleworks®		Reading the screen	- computer task

By 2000 more than 80 per cent of the children were able to demonstrate solid levels of attainment in reading, writing, spelling and computer literacy. Table 4 reports the range of scores in literacy domains that were assessed in 2000. The literacy domains and the assessment of performance are discussed in the text that follows within this chapter.

Table 4
What children could do in 2000

Domain	Range	Almost all (>80%)	Most (70-79%)	Many (30-69%)	Few (<30%)
Phonemic Awareness	10-22 words segmented	83.3% scored ≥ 16	65.4% scored ≥ 18	32.1% scored ≥ 20	7.7% scored ≥ 22
Book Levels	Levels 4-28	83.3% \geq Level 27		55.1% read at Level 28	
Sight Words	<5:10 to >12:09 years (Equivalent age band)	83.8% scored $\geq 7:9$	64.1% scored 8:08-9:02	51.7% scored $\geq 8:09$	15.4% scored $\geq 12:03$
Writing		85.2% achieved the Year 3 benchmark			
Comprehension	Score 0-8	85.9% scored ≥ 5	79.5% scored ≥ 6	35.9% scored 8	
Spelling	6.4 to ≥ 15.5 years	82.1% scored ≥ 7.8	73.2% scored ≥ 8.4	65.5% scored ≥ 9.0	28.3% scored ≥ 10.2
Computer Literacy	Score 2-8	87.1% scored ≥ 5	74.1% scored ≥ 6 s	53.3% scored ≥ 7	22.1% scored 8

Early measures: Everyday and environmental print, concepts about print, and letter knowledge

Four of the domains of assessment introduced in 1996 were discontinued by the time of the final round of assessments: everyday print, environmental print, concepts about print and letter knowledge. Early in the study children were asked to respond to a series of items based on photographs of familiar food items, toys and retail signs. In the environmental print domain, children were asked, for example, to ‘point to the writing’ on a *LEGO*TM box and to identify ‘the part that says McDonald’s’ on a photograph containing the logo and text of a McDonald’s fast-food sign. Everyday print awareness was assessed using a group of items based on a ‘junk mail’ Christmas toy catalogue. By the time of the 1997 assessment round, almost half of the children could correctly identify some of the words appearing in the toy catalogue. Anticipating that most children would be able to complete most of these items by the end of the second year of formal schooling, these assessments were not used again in 1998.

Clay’s (1993) familiar *Concepts About Print* was used during the first three years of the study (1996-98) to provide data about attention to print, attention to words, book orientation, directionality of print, punctuation and print order awareness. Many of these beginning reading concepts were understood by most of the children after the first year of school, so *Concepts About Print* was not used in 1999 and 2000.

Letter knowledge was assessed from 1996 to 1999 using Clay’s letter identification assessment (Clay, 1993). By 1999, 97 per cent of the children could name 50 of the 54 upper- and lower-case letters in the letter identification test. As letter knowledge no longer discriminated among children it was not assessed in 2000.

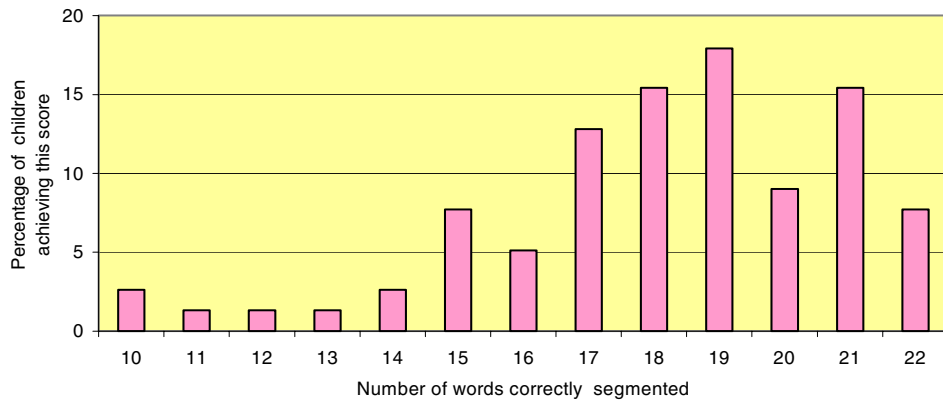
Phonemic awareness

Phonemic awareness was assessed from 1996 to 2000, using the *Yopp-Singer Test of Phoneme Segmentation* (Yopp, 1995). The ability to discriminate between individual phonemes is regarded as a strong predictor of early reading achievement (Adams, 1990). In 1996 only a few (13.5 per cent) of the children we assessed could identify more than four phonemes. By 1997 almost all of the children (81.2 per cent) could identify more than four phonemes and the top pentile of children could identify more than 20 phonemes. In 1998-2000 the children’s phonemic awareness became less clear. In 1998, for example, 17.3 per cent of the children could correctly segment by phoneme all 22 items. In 1999 this percentage fell to 8.8 per cent and in 2000 only 7.7 per cent could segment all 22 items. Figure 3 represents the spread of phonemic awareness scores in 2000.

To explore this phenomenon of falling performance over time, individual children’s responses were analysed. The frequency data for 1999 showed that one child had a consistent pattern of segmenting 20 of the 22 items by using onset-rime, such as when the tester said ‘say the sounds you hear in the word dog’ the student said d-og, rather than saying /d//o//g/. However in searching for regular patterns of use of onset and rime no other child segmented more than 8 items in this way. Of the 80 children, 58 segmented between one and eight words by onset-rime, with most of those children (48) only segment between one and four words by onset-rime. In 2000 the students’ performance on the phonemic awareness task prompted a mix of responses from using onset and rime, using the letter names to spell the words, or saying the phonemes. It may be that for older children the classroom spelling program influenced their responses. For example, a spelling program that stressed a visual approach to spelling may lead children to spell out the names of the letters. Alternatively, a program stressing word families may lead children to respond to the phonemic awareness tasks in terms of onset and

rime. If a spelling program focused on analysing phonemes represented by different groups of letters then the children may have been more familiar with saying the sound heard in the words pronounced by the researcher.

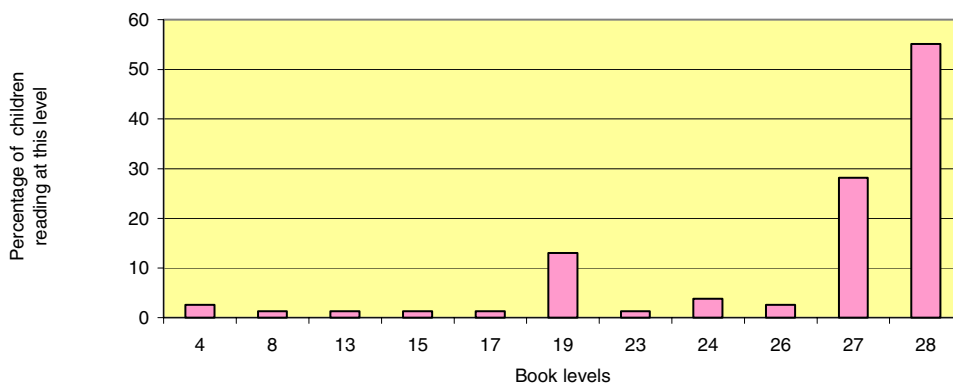
Figure 3
Phonemic awareness, 2000



Book levels

Capacity to read whole texts independently was measured using book levels. We established 28 book levels, each representing a level of text difficulty for instructional reading defined as 90–95 per cent accuracy. Levelled books are organised into text gradients, based upon text features such as text layout, vocabulary, sentence structure, predicability of text and illustrative support (Fountas & Pinnell, 1996; Peterson, 1991). For books above level 23, book levels were assigned according to *Text levels: A guide for teachers* (Department of Education, 1999). Figure 4 identifies the percentage of children reading at each book level at the time of the 2000 assessment round.

Figure 4
Book levels, 2000



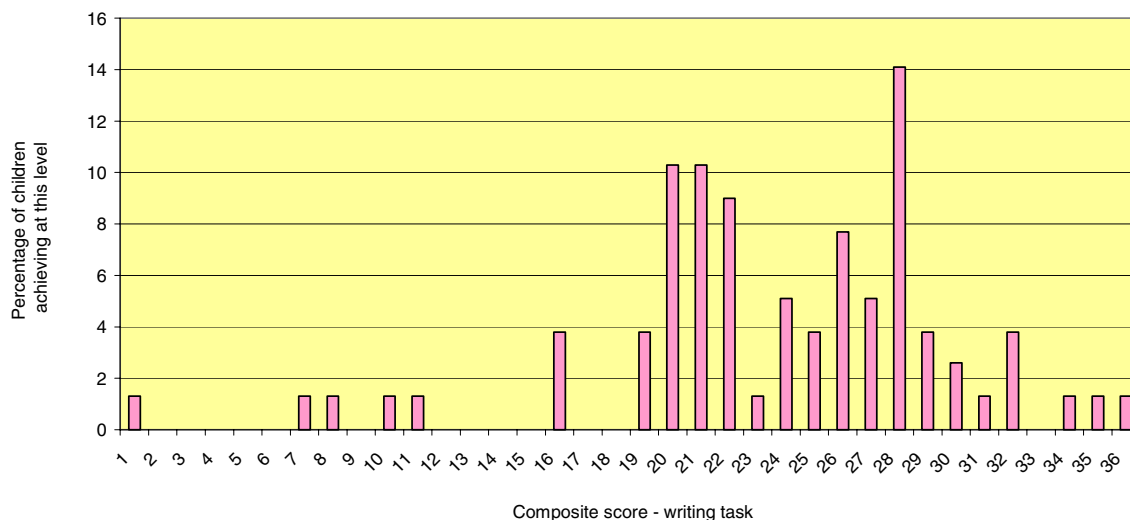
By the year most of the children turned 10, the great majority were confident and skilled readers. Almost all children (83.3 per cent) were able to read at level 27 or better with at least 90 per cent accuracy. More than half (55.1 per cent) were able to read accurately at level 28.

At these book levels, children are able to read books that typically include elaborated episodes or events, extended descriptions, and use literary language or technical terms. The story-line or content matter of a text at this level may be somewhat removed from children's immediate experience, the vocabulary may include some challenges and illustrations would usually provide comparatively low support. There were, however, some children whose reading was well below levels 27 and 28. Almost 8 per cent read at level 17 or below, with one or two children scoring as low as levels 4 and 8.

Writing

From 1999 writing was assessed through extended writing tasks, usually administered in whole-class groups. In 1999, children were shown a stimulus video clip and were asked to write a narrative. The writing was then marked using the scoring rubric developed for the Western Australian Literacy and Numeracy Assessments (WALNA). Writing was scored in terms of features such as sense of purpose and audience, control of text form, text organisation, subject matter, sentence control, vocabulary, punctuation and handwriting. A similar writing task was used in 2000, but this time a different stimulus was used and children were asked to write a descriptive piece of writing. In 2000, the composite scores for the writing task ranged from one child who did not score at all, to one child who scored a composite of 36. Almost all children (85.2 per cent) achieved a composite score of 19 or more, which approximately equates to the benchmark for Year 3. Figure 5 provides a frequency distribution of composite writing scores.

Figure 5
Writing, 2000



Sight words

Ability to read high frequency words was assessed from 1996 to 2000. From 1996-98, sight word reading was measured using Clay's (1993) *Ready To Read Word Test*. In 1999-2000, as children became more experienced readers, the *Burt Word Reading Test* (1981) was substituted. This standardised test of sight word recognition provides 110 high frequency words, graded by approximate difficulty. Children read as many words as they can from the test card, continuing until they have read incorrectly ten consecutive words. By 2000, at an average chronological age of 9.2 years, word reading on the sight word test ranged from less

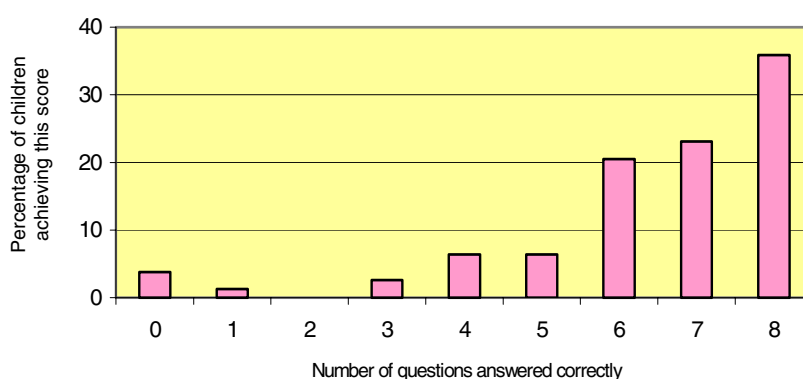
than 5.10-6.04 years to more than 12.03-12.09. Within this very broad range of achievement, almost all (83.8 per cent) of the children in the study had achieved a word reading age score which fell in the age band of 7.9-8.03 years or more and most (64.1 per cent) were in the range from 8.08-9.02 years. About half (51.7 per cent) of the children scored 8.09-9.03 years or more, and a few (15.4 per cent) scored in the range 12.03-12.09 years or more.

Comprehension, reading strategies and retelling

Four separate measures were used over the duration of the study in an attempt to document children's reading strategies. In 1996 and 1997, Sulzby's (1985) hierarchy of reading behaviours was used to describe children's emergent reading practices. Once most children were able to read independently, this measure no longer discriminated among children, and in 1998 a new measure of reading behaviours was developed to describe and discriminate between children's operational, cultural and critical modes of reading (Freebody & Luke, 1990; Green, 1988). This measure was further refined in 1999, and was used again in 2000. The assessment item did not discriminate well among the children and the results are not reported here.

In 2000, a further reading measure was introduced in the form of the Orchid Series *Aspects of Literacy Test of Basic Skills* (Australian Council for Educational Research, 1997). Children were given a simulated magazine with a variety of text forms, including a poem, a narrative and a bus timetable. Following this they were presented with a series of eight multiple-choice questions that would give some measure of their comprehension of the subject matter of the various text types. The scores on the comprehension task ranged from 3.8 per cent of children who were unable to answer correctly any of the questions at all, to 35.9 per cent of children who successfully answered all eight questions (see Figure 6). Almost all children (82.1 per cent) were able to answer correctly at least five of the eight questions. The questions that generally presented the most difficulty were the three questions that required interpretation of the bus timetable.

Figure 6
Comprehension, 2000



From 1997 to 2000 we tried several measures of the capacity to retell written texts. In 1997, children's retelling was assessed using the *Tell Me/Ki Mai Collaborative Language Activity* (New Zealand Ministry of Education, 1997). In 1998 the retelling activity was conducted as a follow-on activity to the book reading, and children were asked to retell the book they had just read. They were then scored according to the detail of their retelling. In 1999 and 2000,

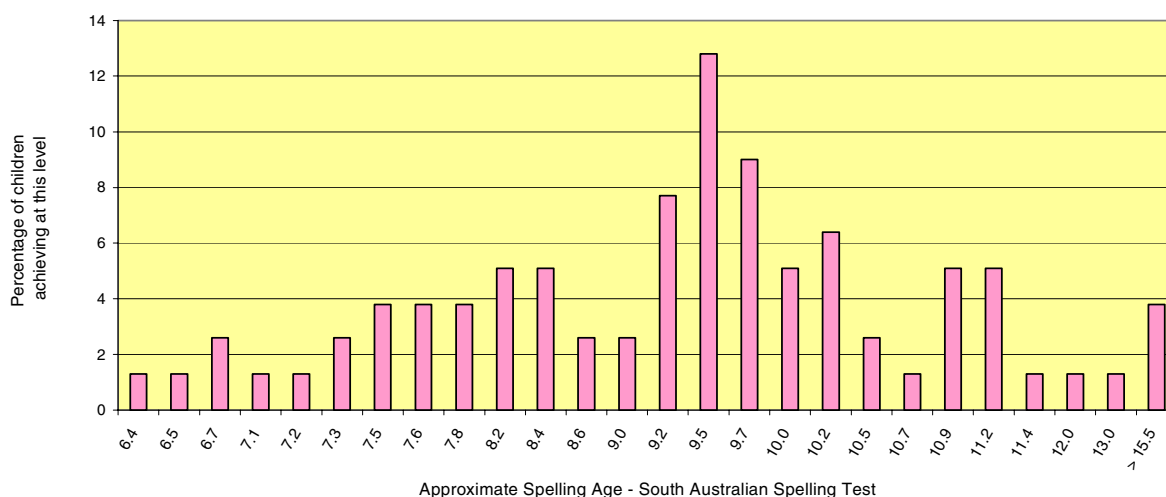
the children's retelling of the book they had just read was assessed according to the criteria identified in *Developmental Assessment Resource for Teachers (DART)* (ACER, 1997). This assessment did not discriminate among the lower half of children in 2000, and the results are not reported here.

Spelling

In 1999 a standardised measure of spelling was introduced, the *South Australian Spelling Test* (Fryar, 1997). This was generally administered on an individual basis, although in the Western Australian sites it was generally administered as a whole-class activity. (In Gibbs Crossing the whole class consisted of two children!) The test consists of a total of 70 words, starting with words such as *on*, *hot* and *cup*, which gradually increase in spelling complexity until words such as *miscellaneous*, *conscientious* and *seismograph* are presented. Each word was presented both alone and in the context of a sentence. The children were asked to write down the words as they were presented, and were stopped after ten consecutive errors.

By 2000, scores on the standardised *South Australian Spelling Test* ranged from 6.4 years to more than 15.5 years, for a group of children with an average chronological age of 9.2 years at the time of assessment. Almost all of the children (82.1 per cent) scored a spelling age of 7.8 years or more, and more than half (65.5 per cent) of the children achieved the expected spelling age of 9.0 or more. A substantial minority of children (28.3 per cent) scored a spelling age of 10.2 or more, a year higher than the mean chronological age of the group. Figure 7 provides a frequency distribution of spelling scores.

Figure 7
Spelling, 2000

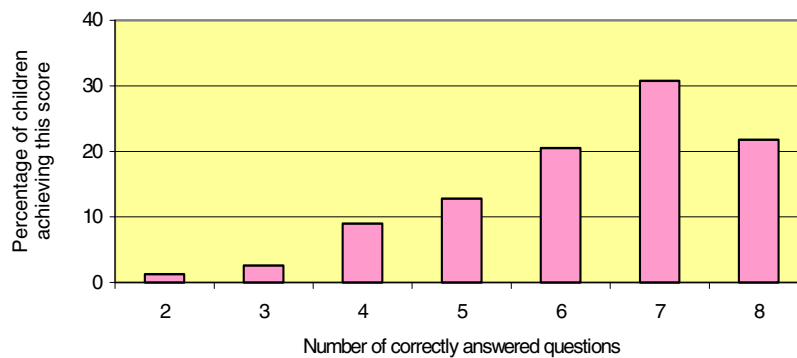


Computer literacy

Several tasks were introduced to measure aspects of computer literacy. In 1997, children were asked to use the *Wiggleworks®* (1994) software program to record their reading of a text at the appropriate level. They were then invited to use the computer to write a response to the text. In 1999 and 2000, another computer task was developed, using a *Eyewitness Children's Encyclopedia* (1997) on CD-ROM. Children were required to answer questions about the type of information they might find in particular sections of the encyclopaedia, to use and interpret

the various icons on the computer screen, and to perform a simple task using the encyclopaedia. Figure 8 provides the frequency distribution of results for 2000.

Figure 8
Computer literacy, 2000



In 2000, children's scores for the computer literacy task ranged from a total score of two (1.3 per cent of children) to eight (22 per cent). Of the four tasks on this measure, each task was rated on a scale of 0-2. Almost all children (87.1 per cent) scored at least five on the computer literacy task and more than half of the children (53.3 per cent) scored at least seven.

Early assessments and outcomes after five years

This section explores growth in performance over the five years of the study. We look first at the relationship between the early measures of literacy used in the *100 children go to school* project and the later measures of literacy used in the current phase of the project (see Table 5).

Table 5
Spearman's rank order correlation, selected 1996, 1997 and 2000 measures

	Letter Identification 1996	Concepts about Print 1996	Phonemic Awareness 1996	Phonemic Awareness 1997
Book Level 2000	.302**	.024	-.075	.401*
Comprehension 2000	.576**	.350*	.250*	.398*
Sight Words 2000	.578**	.387*	.322*	.498**
Spelling 2000	.548**	.341*	.404**	.426**
Writing 2000	.595**	.431**	.300*	.419**
Computer Task 2000	.335*	.335*	.234	.278*

Significance: * $p < .05$; ** $p < .001$

Three of the 1996 measures were selected to represent preschool performance and six of the 2000 measures were selected to represent performance towards the end of the first phase of primary school. The 1996 measures were letter identification, concepts about print and

phonemic awareness. Because many of the children registered no score on the measure of phonemic awareness in the prior-to-school year, their scores one year later were also considered. The six measures chosen from the 2000 assessment tasks were: reading book level, reading comprehension, sight words, spelling, writing and computer literacy. The strength of the relationship between 1996 scores and 2000 scores for each pair of performance measures was calculated using Spearman's Rank Order Correlation (ρ).² Table 3 summarises the strength of relationships between scores on the early literacy assessment tasks and later literacy assessment tasks. Statistically significant relationships are marked * (at the 0.05 probability level) or ** (at the 0.001 probability level). When correlations are statistically significant at the $p=0.05$ level, this means the probability of finding that relationship between the two variables by chance is only 5 per cent. When the probability level is reported at $p=0.001$, the probability of the relationship between the two variables occurring by chance is less than 1 per cent. At these probability levels, the chances of finding the relationships by chance are so slim, it is likely that there is therefore a relationship between the two variables.

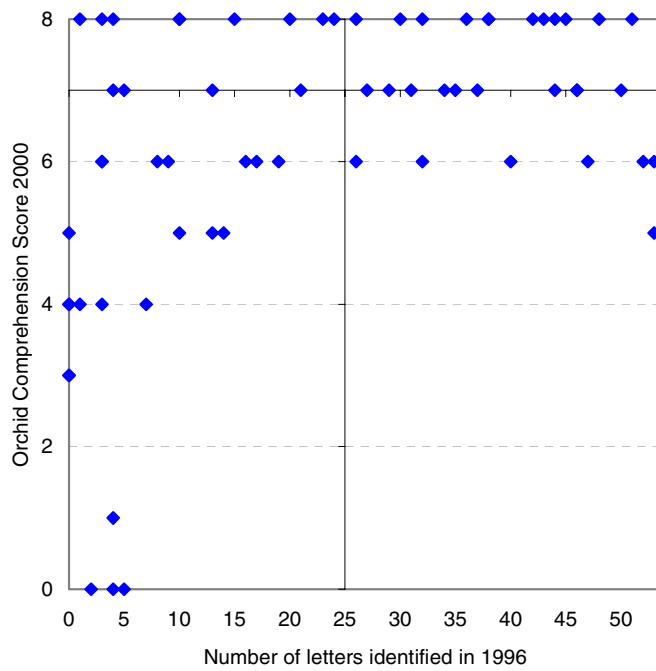
In this study these correlations are broadly similar – but typically lower than – previously reported correlations of 0.61 between letter identification and later reading (Blatchford, Burke, Farquhar, Plewis, & Tizard, 1987), 0.66 between concepts about print and later reading (Stuart, 1995) and 0.79 between phonological awareness and later reading (Bryant, Maclean, Bradley, & Crossland, 1990). Typically, correlations between composite measures of early literacy and later reading performance are of the order of 0.7, explaining about half of the observed variation between early and later performance (Tymms, Merrell, & Henderson, 1997). Together, the evidence of this study and the other evidence reported in the literature suggest that preschool literacy assessment can provide a moderate indication of the likelihood of later success in literacy learning. There will, however, be many examples of unpredicted individual variation.

We found the strongest relationships between early and later performance were between letter knowledge in 1996 and reading, writing and spelling in 2000. Several of these relationships are displayed in Figures 9 and 10. In these graphs, the horizontal and vertical axes are set at the median score on each measure, dividing the graph into four quadrants. The bottom left quadrant includes children whose 1996 and 2000 scores were in the lower half of the study. The top right-hand quadrant includes children whose 1996 and 2000 scores were in the higher half of the study. The top left-hand quadrant includes children whose relative performance improved, from a score in the lower half in 1996 to a score in the higher half in 2000. Similarly, the bottom right-hand quadrant includes children whose relative performance declined, from a score in the higher half in 1996 to a score in the lower half in 2000.

Figure 9 compares early letter identification with later reading comprehension. The Spearman's ρ correlation for this pair of assessments was 0.576. In the graph, as expected, most of the children are located either in the lower/lower (bottom left-hand) quadrant or the higher/higher (top right-hand) quadrant. All of the children with the lowest scores in 1996 (<10 letters identified) were still among the lowest in comprehension in 2000 (<5). Only a few of the high scoring 1996 children were below the median score of seven for comprehension in 2000, and most of these scored just below the median for comprehension. Conversely, about ten of the children in the lower half in 1996, including some with very low letter identification scores, achieved the maximum comprehension score of eight.

² This statistical procedure, the non-parametric alternative to the more familiar Pearson's product-moment correlation (r), was used because some of the data were not normally distributed.

Figure 9
Letter identification, 1996, and reading comprehension, 2000



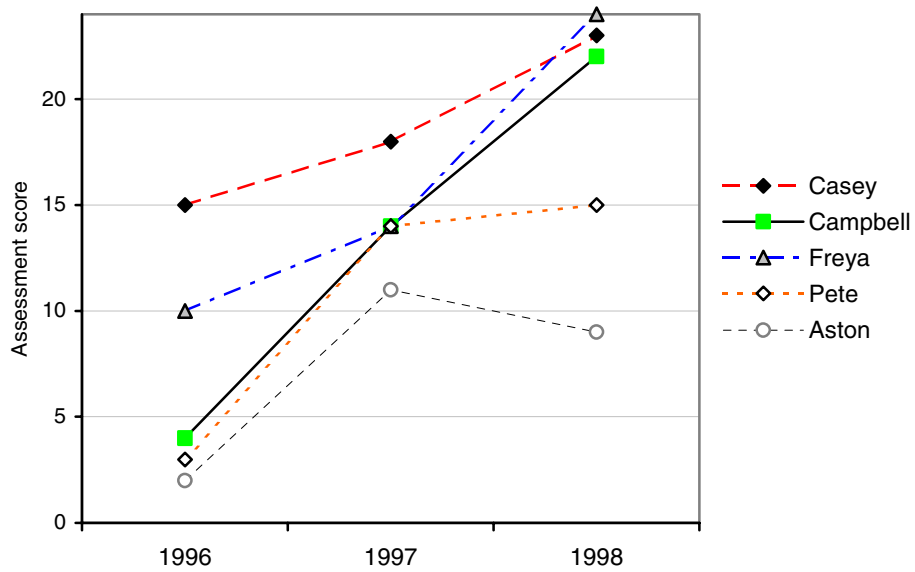
As expected from this correlation, most of the children are located either in the lower/lower (bottom left-hand) quadrant or the higher/higher (bottom right-hand) quadrant. All of the children with the lowest scores in 1996 (<10 letters identified) were still among the lowest in writing in 2000 (<18). Only a few of the high scoring 1996 children were below the median score of 23 for writing in 2000, and all of these scored just below the median for writing. As was the case with letter identification/comprehension, there were a few children in the lower half in 1996, including some with very low letter identification scores, who achieved writing scores above the median score.

Trajectories: Five children over time

This study has yielded a large data set, able to support a range of quantitative analyses about literacy learning. The previous two sections have provided a summary of what children were able to do in 12 literacy domains after four years of formal schooling, and a discussion of the correlations between prior-to-school performance and performance after four years of formal schooling. In this section, the analysis turns to the question of learning trajectories. Using selected data about five children, we address the issue of differences in patterns of achievement. The five children, all described in detail in the site studies (Volume 2), are Casey, Freya, Campbell, Pete and Aston. Casey, from the Hillview site in Western Australia, is one of the more successful children, in terms of achievement in school English literacy. In the words of Judith Rivalland's site study, 'Casey's transition to and passage through the early years of school has been smooth'. At least in academic terms, the same may be said about Freya from Sweetwater, in Victoria, a child described by Jo-Anne Reid as exuberant, talented and creative. Campbell, also from Hillview, has had a less predictable trajectory but by 2000 was enjoying some academic success. Pete, the fourth of the group discussed in this section, is from The Wattles school in South Australia. In the words of Susan Hill's site study, Pete is a lively and athletic child who 'has not been interested in the details of literacy'. Aston, the fifth child, is from Gibbs Crossing Remote Community School in Western Australia. As the site study explains, Aston is a child whose school experience has been marked by transience, absence, poverty and a poor fit between the cultures of home and school.

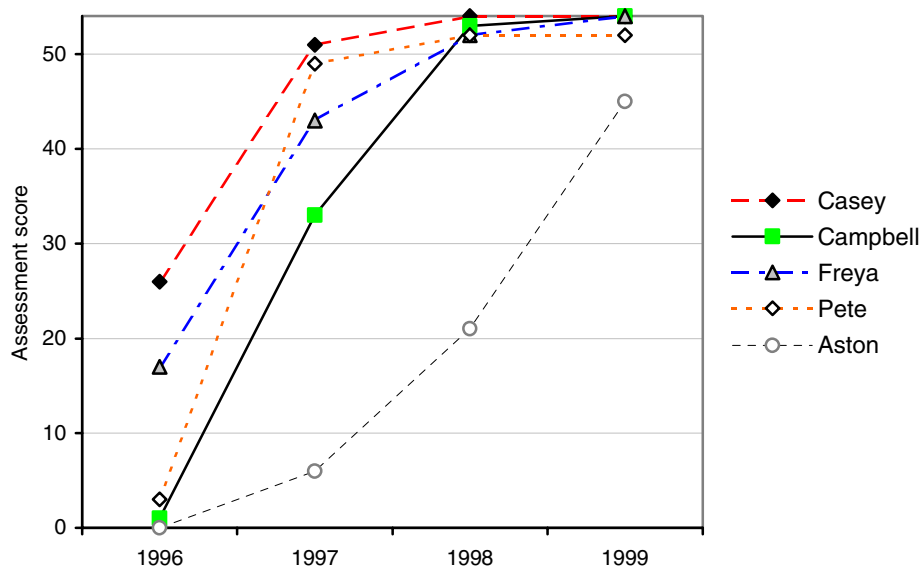
In the first (prior-to-school) assessment round, Casey achieved a relatively high score of 15 on the *Concepts About Print* assessment (see Figure 11). Freya's prior-to-school score of 10 was lower than Casey's, but much higher than the other three children's scores. By the time of the 1997 assessment round, all five children had improved their scores. Pete and Aston's previously very low scores were much higher, and Campbell's score was the same as Freya's. In the second year of school Casey, Freya and Campbell all achieved similar scores towards the top of the scale, Pete's score levelled out, and Aston's score declined. By 1998, the trajectories of all five children were established. Casey had always been seen as a successful student, and continued to be so. Although achieving higher scores later than Casey, Freya was also a successful literacy learner. Campbell was a late starter, whose relatively poor early scores were replaced by relatively high scores. Pete and Aston, who had both had left preschool with few concepts about print, made some initial progress in the first year of school. By the end of the second year of school Pete was established as a weak student, and Aston was established as a problem student.

Figure 11
Concepts about print, 1996-1998



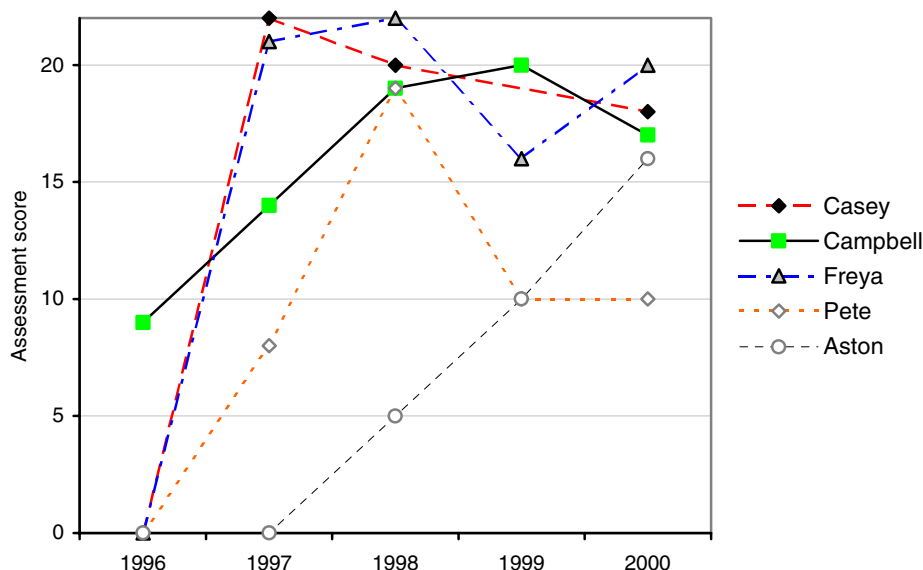
For all the children the evidence of letter knowledge (Figure 12) is similar. Before school, Casey had the most letter knowledge, followed by Freya. Lagging behind were Campbell, Pete and Aston with scores of zero or four. A year later, Campbell still lagged behind, identifying only 33 letters, and Aston identified only six letters. Pete's scores were relatively better in 1997 than 1996, and by 1998 all of the children but Aston had letter knowledge scores over 50. In 1999, after four years of intermittent attendance at preschool and school, Aston still lacked the letter knowledge essential to decoding written texts.

Figure 12
Letter knowledge, 1996-1999



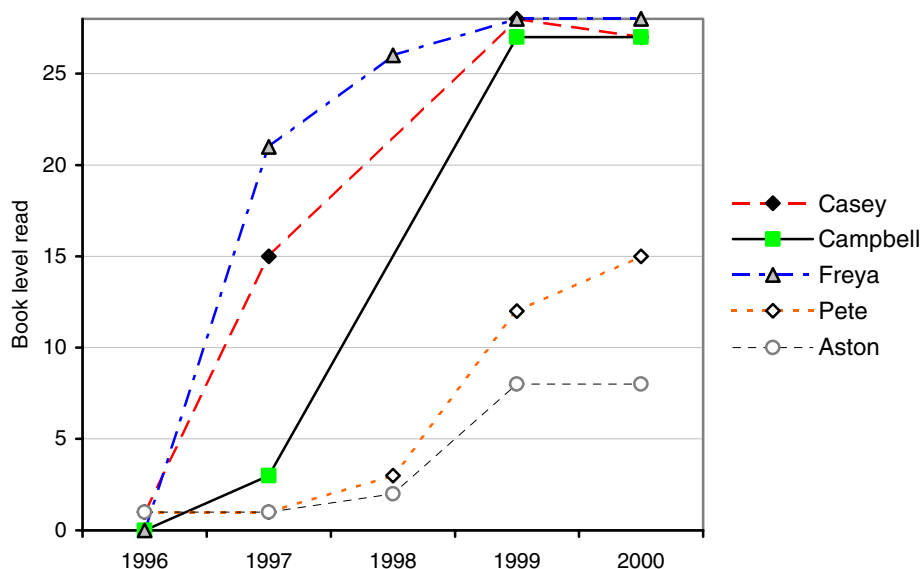
Growth of phonemic awareness followed a similar pattern, extended over a longer period (see Figure 13). Casey's and Freya's trajectories of early success converted the minimum phonemic awareness score of 0 in 1996 to 1997 scores of 20 or 22, with scores dropping over succeeding years as other code systems interfered with their responses to the phonemic awareness assessment items. Although Campbell's prior-to-school score was higher than Casey's or Freya's, his subsequent scores grew more slowly. Pete's scores also grew slowly, not reaching 18 until 1998. As was the case in his letter knowledge and concepts of print assessments, Aston's low early scores improved gradually over the period of the study. By 2000 he achieved a solid score of 16, a score however that was exceeded by his more successful peers three years earlier.

Figure 13
Phonemic awareness, 1996-2000



The trajectories in early literacy building blocks such as concepts about print, letter knowledge and phonemic awareness were reflected in the book level measure of independent reading (see Figure 14). Casey and Freya showed a consistent pattern of growth, rising from book level 1 in 1996 to levels 15 or 21 in 1997 and level 28 in 1999. Campbell's slow start in 1996 and 1997 was reflected in his book level score, but by 1999 and 2000 their scores were similar. Pete's later and lower trajectory in reading led to his reading a level 3 book as late as the third year of the study (1998), rising to level 12 in 1999 and level 15 in 2000. Aston shared Pete's very low book level scores in 1996-1998, and his scores rose slowly to level 7 in his third and fourth years of formal education.

Figure 14
Book levels, 1996-2000



Looking back over five years, the scores of these five children suggest some of the complexity of the larger group of children in the study, described in greater detail in Volume 2. Some children, such as Casey, began well and continued to flourish. Such children make easy transitions from preschool to school, understand the school's expectations about learning and classroom behaviour, and unproblematically take up what each successive teacher offers. For others, the evidence of a promising start and reasonable success on our literacy measures obscures a much more problematic experience of schooling. Despite Freya's success and early enjoyment of school, Jo-Anne Reid's site study documents several years of increasing social isolation and unhappiness. By the end of her fourth year at school, Reid concludes, school was no longer the place where Freya developed and displayed her artistic talents and she was struggling with some of the social aspects of schooling. Campbell was identified as a child who might not find the transition to school easy. He had difficulty fitting into school routines in his first and second year of school and he was socially isolated. His level of engagement varied from task to task, depending on his interests. He was, however, lucky in his allocation to sympathetic and effective teachers, and his parents were both vigilant and patient about his progress. He made late but rapid gains in reading and by 2000 seemed to have overcome a difficult transition to school. Neither Pete nor Aston made strong starts to school and after four years of formal education both were established as unsuccessful students. Pete's levels of literacy have been identified as a matter of concern, but, as Sue Hill has put it, 'literacy in terms of reading and writing is not very relevant for Pete'. Finally, Aston's low, flat trajectory in literacy is deeply troubling. The evidence of slow and steady progress indicates that he can easily benefit from regular class instruction, even though he slips further behind his peers each year. As the site study explains, Aston's trajectory is the result of limited and sporadic attendance, uneven teaching, precarious home circumstances, and vast cultural differences between home and school.

Comparisons with national assessments

The national introduction of Year 3 and 5 population assessment in literacy and numeracy, and the subsequent establishment of procedures for judging equivalent scores among States and Territories, offered the possibility of linking assessment scores in this study with national distributions of scores. Although this was possible in principle, low participation rates in Statewide assessment programs reduced the number from the *100 children* group about whom there was equivalent data. Of the 78 children remaining in the study in 2000, only 52 participated in the national population assessments and only ten focus children were assessed. Consequently, a direct comparison of the *100 children* group with national equivalent scores would not be fruitful. Instead, this section adopts an alternative strategy for linking the two data sets, locating the focus children in the context of the broad Year 3 population in their State.

In Victoria, 24 of the original 31 children remained in the study by 2000. Of these, 20 participated in the achievement improvement monitor (AIM) assessment program. The scores for Freya and Michael, the two focus children who participated in the AIM assessment program, are plotted at Figure 15. Their individual scores for reading, writing and spelling are located on box and whisker plots representing the distribution of AIM scores for Year 3 children in Victoria.

Figure 15
AIM results, Sweetwater focus children, 2000

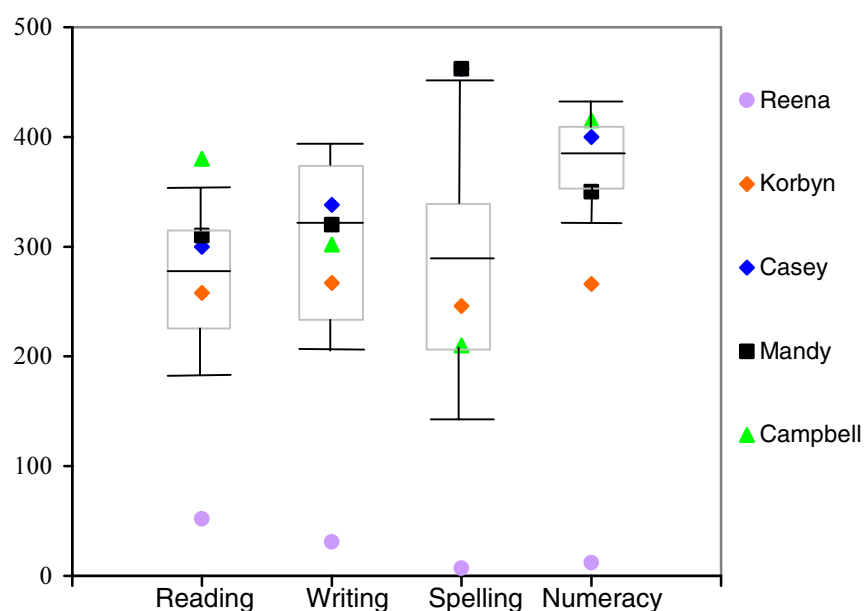


The lowest horizontal line in each case represents the 10th percentile score, the lower limit of the grey box represents the 25th percentile, the upper limit of the grey box represents the 75th percentile and the top horizontal line represents the score of the 90th percentile. The State median score is the horizontal line near the middle of each grey box. The scores on the vertical axis are levels on the Victorian Curriculum and Standards Framework. For Michael and Freya, these AIM scores are consistent with the data in the Sweetwater site study. Michael's high scores in reading and spelling reflect the high level of achievement on *100 children* assessments. As Jo-Anne Reid observes in the site study, he was able to make effective meaning in print form, but his physical disability reduced his capacity to score well

on the AIM timed assessment of writing. As expected from her *100 children* assessments, Freya scored well in the AIM writing and spelling assessments. Her well-below-average score on reading is inconsistent with her interest in reading and the quality of her comprehension. As the site study notes, however, the richness of Freya’s home literacy experience and her early school success have allowed her to ‘coast along easily at school’, directing her energy mainly towards ‘the establishment of friendship groupings’.

In Western Australia, children participated in Statewide Year 3 literacy and numeracy assessment in 1999, a year earlier than the other children, when they were in their third year of formal schooling. WALNA reports children’s scores on a scale from 0 to 800 in reading, writing, spelling and numeracy. Figure 16 compares the State results, in box and whisker plots, with results of the six focus children whose results were available. In reading, the three Hillview children’s scores were all above the State median score, with Campbell scoring above the 90th percentile. Reena and Korbyn from the Gibbs Crossing site study were both below the State median, and Aston did not complete this section of WALNA. Korbyn, the most successful of the Gibbs Crossing children, achieved a score not far below the State median, and Reena scored well below the 10th percentile of the State. In writing, all three Hillview children achieved scores around the State median and Korbyn scored in the range between the 25th and 50th percentiles. Both Reena and Aston registered very low writing scores. In spelling, the focus children’s scores were spread over a very wide range. Casey and Mandy achieved scores above the 90th percentile, Campbell and Korbyn scored in the range between the 25th and 50th percentiles, and Reena and Aston achieved scores below the 10th percentile. Casey and Campbell both achieved high scores on the numeracy assessment, close to the 75th percentile of the State distribution. The remaining four case study children all scored below the 25th percentile.

Figure 16
WALNA results, Gibbs Crossing and Hillview focus children, 1999



NB: Casey and Mandy achieved the same score for spelling, so the symbol for Mandy is obscuring the symbol for Casey.

These one-off WALNA assessment results were generally consistent with the results achieved by the focus children over five years. The relative social advantage of leafy Hillview over remote Gibbs Crossing is reflected in the superiority of Casey’s, Mandy’s and Campbell’s

scores. Among the Gibbs Crossing children, Korbyn's more consistent attendance and his early understanding of the expectations of schools and teachers is registered in the superiority of his scores over those of Reena and Aston. These two children, whose *100 children* and WALNA scores were at the lowest end of the spectrum, have both suffered from poor attendance, and transient and precarious home lives. As the site study explains, the transience of teachers and inconsistent curriculum of the school failed to make a substantial contribution towards overcoming these serious educational disadvantages.

In South Australia, 11 of the *100 children* group and two of the case study children participated in the 2000 Basic Skills Test (*2000 Aspects of Literacy Year 3*, New South Wales Department of Education and Training, 2000) in Year 3. Both of the case study children who participated were from the Riverside site. The literacy results for these children, Tessa and Mark, are reported in Figure 17.

Figure 17

BST results (literacy), aspects of literacy, Riverside focus children, 2000

	Band 1 16%	Band 2 24%	Band 3 30%	Band 4 21%	Band 5 9% of students
Mark					
Tessa					

The percentages refer to the portion of the Year 3 group in South Australia achieving a score in each performance band. The shadowed box indicates the individual child's location within the band range. Mark's band 4 result locates him above the 70th percentile and below the 91st percentile, and Tessa's band 3 result locates her above the 40th percentile and below the 70th percentile. These BST results are consistent with the *100 children* assessments and home and school observations reported in the Riverside site study. There, Barbara Comber characterises Mark as 'acquiring a complex repertoire of literacies at home and at school' and Tessa as having 'paused' in her school measured literacy learning, while continuing to learn new literacies at home.

Conclusions

With 100 children, five years of assessment and 12 domains of literacy assessed, this project developed a large data set. But like so many longitudinal studies it is characterised by attrition of participants. We began with 109 children in five sites in 1996 and assessed 101 in 1997. By 1998 we were able to trace and assess only 81 children. This was further reduced to 80 children in 1999 and in 2000, while we assessed 78 children, we had full data sets for only 71 of these children. Transience of children had the most effect in high mobility schools such as Gibbs Crossing and Riverside. In middle-class schools such as Hillview there was less mobility and it was more often possible to identify and contact the schools to which children had moved. Whether there were 109 or 81 or 71 children in the study, a group of this size cannot provide a statistical representation of the whole of the nation; nor were participants selected according to a stratified random sampling procedure.³ Throughout the five years of the *100 children* studies, depth of knowledge of individual children and their families has been more important than national representativeness. For this reason, perhaps the most useful outcome of the assessment regime was the contribution it made to understanding literacy

³ See ACER's National School English Literacy Survey for a large-scale representative sample (Masters & Forster, 1997).

outcomes for individual focus children and individual sites. Readers interested in this aspect of the study should refer to the site studies published in Volume 2 of this report.

There are, however, three sets of conclusions warranted by the data we have collected and the analyses that have been undertaken. The first set of conclusions confirms the substantial growth in school literacies for most children. By 2000, almost all of the children had long since mastered the letter-sound and book concepts knowledge required for decoding the kinds of written language they were likely to encounter in schools. Almost all (83.3 per cent) were able to read accurately at book levels 27 or 28, which typically include elaborated episodes, extended descriptions and literary or technical vocabulary. Almost all (85.2 per cent) were able to produce extended written texts at or above the national writing benchmark for Year 3. About two-thirds (65.5 per cent) recorded a spelling age equal to or above the approximate mean chronological age of the group. By the time they completed their fourth year of formal schooling, there was a very broad range of performance on these and other dimensions of literacy. For every child whose spelling age was two or three years greater than their chronological age, there were others who were still struggling with decoding skills most children had mastered in the first few years of schooling. As the site studies show, the lowest performing children overwhelmingly are located in schools serving children living in poverty.

The second set of conclusions concerns patterns of growth. Correlations were calculated between early letter and sound knowledge and later performance in reading, comprehension, sight words, spelling, writing and computer literacy. Moderately strong correlations of about 0.6 were recorded between letter identification in 1996 and 2000 scores on comprehension, sight words, spelling and writing. Lower but statistically significant correlations were recorded between 1997 phonemic awareness scores and 2000 scores on comprehension, sight words, spelling and writing. Correlations such as these, which are consistent with a large body of previous research, may be used to support the policy of early identification of children who later have literacy difficulties. Early identification is already well established in Australian schools (Louden et al., 2000) and is one of the common characteristics of schools identified by systems as particularly effective in supporting children with learning difficulties (Rivalland, 2000). Early intervention is not, however, without its practical and ideological difficulties. Correlations of 0.7 – higher than those reported in this study – account for only about 50 per cent of the variance in students' scores, so early assessments will often fail to identify children who would benefit from additional support. Similarly, early assessments will incorrectly identify as 'at risk' some children who are simply following a delayed or different path of development.

The third set of conclusions we draw in this study concerns the question of different paths to literacy. As the level of correlation between early letter and sound knowledge and later reading and writing suggests, not all children follow predictable trajectories. The five focus children discussed above include at least one whose high reading performance could not have been predicted; one whose relatively low reading performance could not have been predicted; and one whose low performance reflected lack of consistent home and school support for literacy learning. Casey achieved high letter knowledge scores in 1996, and superior reading and spelling scores in the WALNA assessments five years later. Freya achieved a reasonable letter knowledge score in 1996 and demonstrated strong reading abilities in classroom work over five years, but achieved at only a little above the 25th percentile in the AIM reading assessment. Campbell was identified as at risk at the point of transition from preschool. He had very little letter knowledge in 1996, but had developed some phonological awareness. He later scored above the 90th percentile in the WALNA assessment of reading. Pete began school with low letter knowledge and, although he was not assessed through the BST, was regarded as a student of concern in 2000. Aston had the lowest letter knowledge of all five children in 1996, and the lowest percentile ranking in 2000. Despite his early identification as a child who would have difficulty with literacy, and despite obvious conceptual capacity, he was not able to take up or make use of much of the curriculum on offer in his school. The

differences between some of these focus children's trajectories and the trajectories that might have been predicted on the basis of early assessments is not an argument against early assessment. But it is a powerful reminder that early assessments imperfectly predict the future. Against a background of correlations in the range 0.6-0.7, there will be some early starters who lose their way, and some late starters who overcome poor early scores with some combination of good luck, good teaching and/or family support.

This study revealed that there was substantial growth in school literacies for most children. There were differing patterns of literacy growth and different paths to literacy amongst the case study children. Rather than follow entirely expected patterns of growth the focus children did not follow predictable literacy trajectories.

5. Which Children Get Which Literacies?

Barbara Comber, Jo-Anne Reid, William Louden,
Susan Hill and Judith Rivalland

This chapter explains the insights and questions raised by the project *100 children turn 10*.

There have been few longitudinal studies of children's literacy development in Australia. This study therefore provided a rare opportunity to follow different children's literacy trajectories over an extended period of time, from preschool through the first three years of formal schooling, and to consider both qualitative and quantitative data. Of the larger cohort of children, we have studied 19 children in a more focused way. These children were growing up and attending school in five very different locations. In this chapter we explore the lessons we have taken from this research, both from specific sites and particular children, and from across the study as a whole. We begin by briefly revisiting the purposes of this phase of the study and also the questions that arose from the initial study, *100 children go to school: Connections and disconnections in literacy development in the year prior to school and the first year of school* (Hill et al., 1998). We then move to the questions raised by the current project.

Purposes of the project

The initial project enabled the researchers to establish a comprehensive set of baseline data on the literacy development of 120 children in five contrastive school communities in Western Australia, South Australia and Victoria. This data set included literacy outcomes in 1996 and 1997, plus detailed case studies of 20 children within the larger cohort. With family moves the number in the larger cohort was been reduced and we were left with 19 case study children.

The extension of the project through a second DEST grant provided an ideal opportunity to extend the data corpus over successive years until the third year of formal schooling which marks the end of the period traditionally seen as the early childhood years. The major goal of the project was to investigate the kinds of literacies and pedagogies made available to children in different contexts over a period of time. The study also explored what literacies the individual children took up and used and the kinds of teaching which appeared to make a difference to particular children. A key feature of the research design was its inclusion of diverse socio-cultural contexts and school sites.

Not surprisingly the five sites – a remote desert community in Western Australia, an affluent Perth suburb, a suburb in a regional area of Victoria, a low-income satellite city in South Australia and a highly multicultural, mixed-income, inner suburb of Adelaide – gave rise to noticeable differences. Clearly children were growing up in very different circumstances. Not only were there obvious variations between communities, there was great variation within the 'same' community, school and classrooms, in terms of the language and literate practices that children brought to school and how they were living their everyday lives. Families differed in their material, cultural and linguistic resources. Some parents had significant educational

capital. Others had not completed secondary schooling. Some were bi- and multi-lingual and literate. Others spoke only a little English and wrote little or none. Some parents organised a great deal of their own time around their children's education and extra-curricular activities, reporting regular library visits, intensive assistance with homework, and driving children to sporting, music and other activities. In some cases parents organised extra tutoring in literacy. One mother was taking her son through the Korean maths and language workbooks after school. Other parents had less time and financial resources available to supplement what school provided, due to illness, work, study and childcare commitments. Some children lived in poverty, and one child was homeless from time to time. The vivid portrayals of children's contrasting lifeworlds signalled a need for educators to shift assumptions about what constitutes 'family' and 'family life', and indeed to review any normative concept of 'family literacy'. While all children in the study had significant access to rich language practices and household knowledges, not all these knowledges and practices counted equally in school and not all could be easily transferred to school literate practices. The original *100 children go to school* report (Hill et al., 1998) raised a number of questions for educators which have informed the present study and its analysis.

Challenges and questions arising from *100 children go to school*

Our major focus in the original study was how children were able to make the transition from preschool to school. We were particularly interested in the kinds of connections and disconnections they experienced in terms of their language and literate practices. We found that for many (if not most) children the school as an institution was a strange environment, with different rules for time, resources, space, bodies and ways of interacting. Some children took a considerable time to adapt to the institutional demands of school. Others appeared to adapt to school easily. Using Bourdieu's (1990) concept of 'habitus' we theorised that some children already had the dispositions to 'do school' and adjusted their practices accordingly. Similarly some children had the linguistic and cultural capital that schools value highly and were able to demonstrate and use this linguistic and social capital early in their school careers.

The study raised significant questions about the contingent nature of early literacy learning at school:

- What different opportunities for literacy learning are made available to different children?
- How do children's participative repertoires (and preferred ways of interacting and communicating) make a difference to what they elicit, access and take up in school?
- How do the enactments of (gendered, racialised, classed) literate practices enable some children to make use of their knowledges and skills at school and others not?
- What kinds of cultural capital and habitus count in different early childhood environments (yard, classroom)?
- What counts for (and against) children when they go to school?
- What counts for (and against) children in their efforts to perform school literacy tasks?
- How does school count in the lives of different children?
- What are different children able to get from school?

From the original study three major findings have particularly high relevance for the current phase of the research.

- 1) Early literacy learning at school was contingent on children already having particular dispositions towards educational institutions and participative repertoires that matched classroom pedagogical routines.
- 2) There were many different pathways of literacy acquisition, rather than one standard developmental route.
- 3) Children who were already performing at the highest levels in terms of measurable literacy proficiencies continued to extend their repertoires at a faster rate.

We briefly review each of these findings below.

Early literacy learning at school was found to be contingent on children already having particular dispositions towards educational institutions and participative repertoires that matched classroom pedagogical routines. This meant that early childhood classrooms required children to participate in particular classroom events such as question-answer sequences, talk around text, displays of knowledge, recounts of events and demonstrations of current expertise in particular ways. Some children were more comfortable than others in these school language practices on which many literacy lessons hinge because they were similar to the interactional patterns and genres of their home lives. An emerging challenge for teachers is how to open up the interactive processes through which literacy lessons are constructed and assessed in order for all children to have real opportunities to participate. We discuss this further below and in the detailed case studies in Volume 2.

The first report of this study also demonstrated that children approach early literacy learning uniquely and, as Clay (1998) has noted, there are many different pathways, rather than one standard developmental route. In this project we noticed children tackling various aspects or dimensions of literacy in different sequences and some children taking a longer time than others to acquire the operational resources they needed for independent classroom work. Several children took an extended period to understand the orthographic code, many were unable to apply phonemic awareness, and others were reluctant to write even though they were able to read. There are many axes of literate knowledge, understanding and practices in which children need to develop competence. Development is not necessarily even or predictable. It may be, however, that certain literate knowledges and proficiencies are taken for granted in the curriculum design of primary school classrooms (Comber et al., 2001; Snow, Burns, & Griffin, 1998). Hence leaving early childhood classrooms (as these children are about to do) without certain practices under automatic control may prove problematic.

A third key finding of the *100 children go to school* (Hill et al., 1998) project was that, once at school, those children who were already performing at the highest levels in terms of measurable literacy proficiencies before starting school continued to learn at a faster rate. This meant that the gap between what they could do and what the children performing at lower levels could do continued to widen. The opportunity to investigate whether the gap continued to widen even further, or whether indeed children caught up, was available in the current phase of this study. These questions are discussed further below and in the relevant case studies. Yet we can signal here that some children at least partially bridged the gap, but for others it increased dramatically. We elaborate further below on what made the difference for some children and consider why other children continued not to extend their literate repertoires.

These three earlier findings from the study *100 children go to school* needed further exploration in order to see what makes a difference to how children develop literacies over time.

We move now to the present study and initially consider what we have learnt from researching in particular school sites, because there were different lessons in each of the schools for literacy educators, policy-makers, curriculum writers, teachers and researchers.

Lessons learnt from the five schools

By the time we observed the children in their second year of school, most had mastered 'doing school'. That is, they were now accustomed to the nature of the institution and its practices. When they acted outside the boundaries of their teachers' expectations, they did so knowingly. Hence we could now turn our attention more fully to children's engagement with the literate practices on offer and their continuing literacy development. What lessons are there about literacy development from each of these five schools within different cultural and socio-economic research sites? What can we learn about children developing literacies over time in particular circumstances? In considering these questions we have sequenced the schools in terms of relative disadvantage in this chapter. Hence we begin with Gibbs Crossing, where a large majority of the children experience educational disadvantages associated with language and dialect difference, poverty, Aboriginality and remoteness of location. (See Volume 2, p.97 for the full site study.) We then move to The Wattles, a school community with a high percentage of school card holders (a recognised indicator of poverty in South Australia) (see Volume 2, p.7). Next we consider Riverside, a community of high cultural diversity and a wide range of parental incomes and educational histories (see Volume 2, p.51). From there we move to Sweetwater, a school in a suburb of a regional town in rural Victoria, where the population was mainly of Anglo-Australian heritage and of average- to middle-income (see Volume 2, p.123). Finally we return to Western Australia, this time to Hillview, an old, well-established, western suburb of Perth, where house prices suggest middle- to high-income earners comprise the major part of the population (see Volume 2, p.179). In ordering the discussion in this way, we intend to foreground the different conditions in which children are growing up, going to school and acquiring literacies. Yet, in discussing each site separately we also intend to stress the differences between children within a school and classroom community and to consider what impact instruction practices and family support may have on their literacy development.

Gibbs Crossing: Absence, transience and poverty

We had hoped to be able to tell a good news story about the literacy development of children at Gibbs Crossing. We chose the school in 1996 on the basis of previous fieldwork in the school. That experience had left us with the strong impression that Gibbs Crossing was a school where indigenous children and families were welcome, and where children whose homes may not prepare them to 'do school' were doing well at school. However what we learnt at Gibbs Crossing is deeply troubling. In summary the best of the children at Gibbs Crossing (in terms of measurable literacy outcomes,) Korbyn was just below the average for the State based on the Western Australian Literacy and Numeracy Assessment (WALNA) results. He was seen as an able and willing child and performed highest in his year level cohort. The other case study children scored below the 10th percentile and appeared to have largely disconnected from schooling. When they were in attendance, they were either invisible or in trouble. So what went wrong for these children? What helped Korbyn to do better than his immediate peers and what held him below-average compared with children across the State? A number of factors which have worked against these children are discussed in depth in the site study. Here we reiterate the major themes because they require attention and action.

Korbyn attended school regularly, whether he was living in Gibbs Crossing or another of the several communities in which he spent extended periods during the early years of his

education. From the earliest days of preschool, he was keen to meet teachers' expectations. The five-year-old who knew how important it was to attract the teacher's positive attention 'Miss Christy! I done one Miss Christy!' became the six-year-old who responded 'Miss, I'm right, Miss', and the nine-year-old rated by teachers as 'a good kid' with 'a great personality' who 'works really well'. Compared with the other Gibbs Crossing focus children, Korbyn had less cultural territory to cross as he made the journey between home and school. His grandmother was a long-term employee of the school – she had worked there longer than any principal – who took very seriously her role as a classroom aide and as a go-between with the community. From time to time, Korbyn's mother also worked in this support and liaison role. A positive attitude to education, combined with regular school attendance and cultural support, allowed Korbyn to make moderate and sustained progress in school English literacy. Like his Gibbs Crossing peers, he completed preschool unable to name any letters and had little understanding of how print works. A year later, he was able to identify almost all letters of the alphabet but did not demonstrate word-by-word matching by pointing as the print was read to him. Although he was progressing well in his class group, he progressed more slowly than the whole *100 children* group on early literacy measures such as letter knowledge and concepts about print in 1997 and 1998. By 2000, his WALNA scores demonstrated that he was above the national benchmarks in literacy, with reading, writing and spelling scores between the 25th and 50th percentiles.

Reena's school experience was much less consistent than Korbyn's. She attended preschool for three terms in 1996, and spent much of 1997 and 1998 at Gibbs Crossing school. In 1999 she lived with relatives in another community and attended school there. In 2000 we understood that she was living in a third community, but was not attending school at all. A low birth weight baby, Reena did not learn to walk until she was two and a half years old. She was keen to learn from her preschool teachers and left preschool enjoying practical activities and being read to, but able to identify only two letters. Her Year 1 teacher, Megan, was relatively experienced but had not taught in junior primary before, and left after two terms. Catherine, a new teacher who had spent two terms in an education support role in the school, replaced Megan. Later that year, a school psychologist assessed Reena and it was suggested that Reena was a candidate for the special education class. Catherine opposed this decision, irritated that Reena was 'generally seen as a lost cause by both her parents and the other teachers'. Catherine made Reena her 'special project' in the context of a classroom characterised by her detailed understanding of students' progress, consistent experience of success, and a climate of personal and cultural respect. In this context, Reena prospered for several terms. Late in 1998 we met Reena at another school, where she had been placed in Year 1 rather than Year 2 and was known by the name Irene, because the teacher thought that 'Reena' was a pet name for Irene. Although Reena was able to produce a series of literate performances when assessed by a member of the research team in 1999, these performances were not being displayed in her regular classroom work and were not registered on the WALNA literacy assessment.

We think that Korbyn has done well considering the circumstances of his schooling, and that Reena was lucky to have a teacher as good as Catherine take such a personal interest in her. The effects of this interest have, however, been washed out by transience; Reena's family's frequent movement from one community to another; and the rapid turnover of teachers Reena meets when she does attend school in a new community. Neither Aston nor Stella, the two other focus children who stayed in the study, had the same good start or good luck. Aston's home life seemed to us to be characterised by impermanence. He travelled from one community to another and often did not attend school. As a six-year-old he was moving from one household in the community to another. Both of his parents were involved in new living relationships. When Aston attended school he was frequently unable to meet the teachers' expectations, and had little sympathy for them. During one of our visits to the school he was excluded from his Year 1 class four days in a row, ending each day curled up asleep under the principal's desk. By 2000, he was defined as a behaviour problem by almost everyone in the

school. Despite his obvious intelligence and responsible playground behaviour, he learned very little at school that could be measured on the WALNA literacy assessment. Although the details are different for Stella, the story is essentially the same: a broad gap between the languages and cultures of home and school, a long history of absence and transience, movement from one household to the next, a reputation for difficult behaviour, and little progress in school English literacy.

Families in communities such as Gibbs Crossing have many reasons for not insisting that children attend school regularly. Peacock (1993), for example, has outlined a series of reasons why Indigenous peoples may be unconvinced about the value of attendance at school, including the irrelevance of education ‘when employment prospects for Aborigines are so insecure’ (p. 5); ‘older children’s responsibilities include taking care of younger brothers and sisters’ (p. 6); funerals; family obligations; and shame at attending school not properly equipped. Similarly, Groome and Hamilton (1995), identified five reasons for poor attendance of adolescents: ‘disaffection from school’, ‘difficulties of supporting students when families are living in poverty’, ‘relatively high levels of sickness’, ‘pressures on students to baby-sit’, and cultural issues, such as ‘attendance at funerals’ (p. 5). In addition, there are historical reasons for Aboriginal people to be suspicious about the benefit of their children attending school. Until recent times, secular and religious authorities gathered people from the desert on missions and reserves, and children were taken from their families. When children attended schools they were forbidden to speak their own language and were separated from their own culture. In some places, as a participant in another study (Louden, 1997) put it, Aboriginal people learned to be ‘afraid of authority’ because they were ‘taught in the mission you only speak when spoken to’. Aboriginal people’s continuing distrust of schools has been widely reported (Government of Western Australia, 1994; Hayward, 1993); and historically, at least, schools have not been noted for their respect for Indigenous languages and cultures.

From the school system’s point of view, schools such as Gibbs Crossing are very hard to staff. The central staffing agency, located far south in Perth, draws on a metropolitan graduate labour market that prefers suburban or coastal school appointments. Despite significantly superior salaries and service conditions in remote schools, staffing remains precarious. When Reena was in Year 3, for example, a Year 1 teacher left during Term 3 and could not be replaced. The school was reorganised into fewer classes and Reena’s Year 3 class became a Year 3/4 class. When we visited her later in the year, the Year 3/4 teacher left to have an operation in Perth and the class had another teacher. Whether they stay in such schools or not, teachers in remote schools are almost exclusively non-Indigenous, unfamiliar with the language or dialect children in their classes speak, and often in their first years of teaching. Some teachers manage to overcome these disadvantages. In this study, Catherine’s two years of caring, persistent, well-informed and explicit instruction stand out against a background of more routine and suburban classroom teaching, and against a background of distance from the families in the community the school is supposed to serve.

The low and flat learning trajectories of even the best of the Gibbs Crossing children is troubling. Although the school is physically well-equipped and resourced, there does not appear to be sufficient staff available with the linguistic, cultural and educational knowledge required to meet the needs of these children. Even if there were more such staff available, families’ historical suspicion of the institution of schooling leads to high rates of absence and transience. At Gibbs Crossing school – despite the resources provided by the State Education Department – the brutal facts of poverty, homelessness, transience and cultural differences stand between the children and the possibility of success in school English literacy.

The Wattles: Plodding along or not reading

At The Wattles the situation of the four case study students was less bleak, but also raised a number of serious concerns and questions. Two of the students had moved to other schools. Two remained at The Wattles. The two girls were moving along at an average rate, whereas the two boys appeared altogether uninterested in reading and had made little progress. Of the two girls, our expectation had been that one of them would in all likelihood move ahead quickly, but in fact she seemed to be progressing slowly.

At The Wattles site the focus children did not sit for the Basic Skills Test for a number of reasons: inability to undertake the test, appointment at the dentist on the day of the test, and the child at a private school took another test which was arranged by the school. The following section describes literacies developed by the focus children – Sean, Pete, Erin and Christianne.

At the end of the longitudinal project Sean was in the fourth year of school and could read very simple emergent texts at approximately level 4 according to Reading Recovery text level difficulty. A level 4 text has some simple, high frequency words, the vocabulary and syntax is clearly supported with illustrations and a text at this level is usually read by children at the conclusion of the first year of school. Sean could write a simple sentence but his spelling was inaccurate and the strategies he used to write words were largely phonetic, spelling the words as they sound. He appeared to have difficulty understanding most of the teacher's instructions and experienced problems completing tasks on his own. He did sustain his attention when engaged with simple worksheets where he was required to add a small part of a word. These worksheets did not require problem solving or a large amount of choice, rather they asked for words or letters to be copied into the spaces.

On a positive note Sean had added to his literacy repertoire and had improved in terms of literacy outcomes when we compared what he could do in preschool and four years later. However, while Sean was reading emergent reading texts many of his peers were reading more complex chapter books and non-fiction texts and they were able to write several pages of written text. Most of the class enjoyed the classroom literacy activities, however they were also easily distracted and amused by Sean's funny antics such as when he would slide around the floor on his bottom or break pencils on his forehead. In the classroom Sean sought out a group of boys who had similar 'acting out' behaviours and was encouraged to be more and more disruptive by these peers who goaded him on and laughed at him. Getting the attention of the 'naughty boys' was an important goal for Sean.

Over the years Sean had become known throughout The Wattles school as a student with behavioural and learning difficulties. Sean's teachers from the preschool year onward commented on how disruptive he was in class. He had been suspended several times from school and spent many hours in time-out in the corridors or in a room by the principal's office. The school had received advice from the guidance branch, when trained psychologists came to the school and observed his behaviour, commenting on the behaviours associated with having attention deficit hyperactivity disorder (ADHD) and learning difficulties (LD). The guidance officers suggested a range of behaviour management strategies for the teachers. The teachers did their best to implement some of the positive rewards for completing tasks but these strategies seemed to only superficially touch Sean's complex behaviour in school.

Sean in the fourth year of school was not literate. Sean got attention from the other boys who thought that his behaviour was outrageous and funny. Sean's humour consisted, for example, of writing four-letter words for a special literacy computer program to read aloud so the class could hear. He liked to break things and to move around the class under and over the tables to escape the teachers' gaze. He was a masterful class clown and literacy to date had not

engaged or motivated him very much at all. He did not sit for the BST because the teachers knew that he could not do any of the items.

In a similar vein Pete was not engaged with literacy. Pete was reading slightly more complex texts than Sean and was able to write two or more sentences. His spelling was largely phonetic and he had some confusion between capital letters and lower case letters. In school literacy tasks, if there was group work Pete would talk while the other students wrote. He liked to talk with the other students and our observations revealed that he spent most of his time talking, not reading or writing. Even when asked to complete the assessment tasks in this project he quickly lost interest and tried to introduce interesting extraneous topics of conversation in an attempt to engage the researcher.

Pete viewed school as a place for social interaction with the other boys and as an opportunity to play soccer. In the Year 2 and Year 3 classes there were enough boys to form two soccer teams and it was running and kicking the soccer ball that gave Pete huge satisfaction because he had an innate physical agility and had lots of practice with ball skills. Soccer was highly valued by the class and the girls in the class liked to watch Pete and his friends play at recess and lunchtimes.

Pete's mother and father commented that they thought that Pete was doing well at school. They saw Pete's skill at soccer as the most important of his abilities and put a lot of time into taking him to practices and watching the soccer games on the weekend. They expect that Pete will become a professional sportsman – school is something to be endured.

The first three years are a very important foundation for literacy and although the teacher worked hard with Pete he did not engage with literacy tasks. At the close of the fourth year at school the texts that Pete chose were not appropriate for him to engage in independent reading without teacher or parent support. He was able to skim books and it is possible that this is what Pete thinks reading and writing is. Pete had a fundamental problem with understanding the purposes and goals of literacy and concepts about how print works. It may be that the attention to detail in the form of letters within words and the order of words in a sentence was not seen as important.

While the two case study boys at The Wattles experienced difficulties with literacy, it was a different story for the girls. Erin and Christianne had both been moved by their parents to different schools. Erin was moved at the end of the second year of school and now attends a school for students with high intellectual potential (known as a SHIP school). Christianne moved to a private Baptist school which is known in the area as a school with a curriculum focusing on high academic achievement.

Erin was selected as a focus child in the mostly low-income site because both parents were unemployed. At the time Erin's mother was unwell and needed constant support, however now her parents have some part-time work. Erin was one of a family of five children – four girls and one boy. Her brother was recognised as having high intellectual potential when the teachers at The Wattles found his behaviour difficult to deal with. He was viewed as mathematically and scientifically gifted and he was at the SHIP school which had an accelerated curriculum adjusted to match his learning and achievement. Erin was able to attend the SHIP school as the sibling of a gifted student.

Early on it was noted that Erin could already read by the time she started school and her parents commented that her older sisters had taught her to read using the small supermarket books that her mother purchased whenever she could afford them. Erin was the youngest in the family and accompanied her parents and her brother and sister to many weekly social occasions associated with the church they attend and the square dancing club that they belong to. Like Pete's family, Erin's parents viewed school as important but not central to their lives.

The girls in the family were performing about average academically, and Erin's brother, who is gifted, spent a great deal of time on the family computer.

The teaching that appeared to have made a difference was the support Erin received before school from her sisters, and the teaching throughout school maintained her achievement in the middle of the cohort. Erin was a very quiet, shy child who kept to herself and was hard to get to know. She disliked drawing any attention to herself. However, her 'eyes lit up' when she talked about the fun she had square dancing and going to church and joining in with the singing and chanting. Erin did not sit for the BST because she was at the dentist.

Christianne was also moving along in the middle of the cohort as far as achievement goes. She was receiving a great deal of support from her mother who is a teacher and from her father who spent several hours helping Christianne and her brother with homework. Reflecting on Christianne's development in literacy, she said she found spelling her favourite activity and practiced at home learning words to show her teacher. She read fluently early on and seemed to stand out at The Wattles because she was so motivated and driven to achieve. The teachers did not have to spend time encouraging her to complete tasks in literacy. However at the new school Christianne did not stand out as an especially highly motivated student as all her peers were highly motivated.

Christianne attended Greek school on the weekends and this was important to her identity and recognition within her family. Christianne coped well with both the school routines at the private Baptist school and the Greek school. She fitted in well and was very happy and engaged with literacy learning. Her teacher in the last year of this study was young and very motivated and the curriculum promoted critical literacy, careful analysis of texts and much discussion. These critical skills and oral language focus are not easily measured and perhaps Christianne's literacy development was in fact far greater than what appears on the print-based assessment outcomes.

In summary, The Wattles site created some surprises as the longitudinal study progressed. The school population diminished as parents moved their children to private schools and to schools offering special curricula. The two boys at The Wattles were well below what could be expected for literacy outcomes at their age level. Neither boy received systematic one-to-one support as their literacy trajectories flattened out and the gap between their achievement and their peers accelerated. There was some intermittent additional literacy support for Sean which was provided by teacher aides or education workers. However, the complexity of Sean's difficulties and the idiosyncratic nature of both boys' literacy development and their lack of engagement with school required highly trained specialist teachers who could develop a systematic, engaging program that built on the students' strengths and achievements. There do not appear to be any clear, simple answers regarding the complex literacy requirements of the two boys. What was clear was that both boys could not participate in the more complex literacy tasks that were being increasingly set as they moved on to the upper grades.

The two case study girls had left The Wattles and attended schools that offered special programs. Both girls were progressing in the middle of the cohort. Their teachers commented that the girls were good students who worked well. Both girls could have been soaring academically given the amount of parental support at home, the stability and richness of their home life and early reading behaviours learned well before school. The girls remained average, however, as far as achievement goes.

Riverside: Different development, different literacies

Riverside school was led by a principal with a strong vision about educating children in creative and critical thinking, and it was his vision that fundamentally changed the language

and literacy curricula on offer. He had two main strategies for ensuring that children achieved at their highest possible levels of performance. Firstly, the SHIP program, a Statewide initiative which was designed for students with high intellectual potential, infused the whole curriculum and pedagogy of the school. Secondly, there was a classroom support program which was designed to provide extra support for children who were nominated by teachers as having difficulties with literacy, numeracy, behaviour and so on. The school's priorities were to design learning programs that challenged all children and incorporated aspects of critical thinking, questioning, problem-solving and analysis across the curriculum. This program was not reserved for the children who had been identified as gifted.

The Riverside approach was that the best programs for gifted students would enhance the learning of all students. The principal saw this as a social justice strategy. Not all of the early childhood teachers at Riverside were equally enthusiastic about the SHIP program (although most were and some were devotees). Yet because it was an agreed school policy all teachers had participated in professional development and they had a shared language for talking about their program. The children therefore experienced a 'thinking' curriculum that was planned and sequenced in agreed ways. Teachers as well as children shared a common language. At the same time it was recognised that children learn differently and at different rates and that some children needed extra instructional support to help their progress. Riverside arranged its staff so that there were extra adults in the classrooms during literacy lessons in particular. This allowed the classroom teacher to provide closer help and teaching for those children who were struggling academically or socially. The BST results for Riverside indicated that the school was performing extremely well in comparison, not only with like schools, but also with overall State averages. Not surprisingly the school is beginning to attract children beyond the local area. The school population represents a mix of children from many ethnic and cultural groups, as well as children whose parents have very different levels of income and education.

The children of the original Riverside cohort who remained in the study (n=9) have all made progress in terms of literacy acquisition, but their stories are complex and raise questions for educators beyond the school itself. Alan, Mark and Tessa can all now do a great deal more with words than they could when we met them prior to school commencement. Their school programs appear to have been very effective. In every case the progress has been substantial and visible. Yet what these three children can do is very different and becoming increasingly so, but not in ways which are neatly predictable. These children are developing differently and at different rates on different axes of literate practices.

Alan was still very much engaged in acquiring the literacies he needed to be a school boy, rather than in doing school tasks. After taking some time to make the transition to the more formal practices of school, Alan did not immediately engage in literacy learning. His interest and participation in the academic program in the first year of school was limited. However, despite his mother's initial fears, the first year had been productive. He was 'picking up a pencil' and he was going to school. Yet progress was slow. Alan appeared more ready to learn to read and write in Year 2 and it was in Year 2 that he 'cracked the code' and began to read and write short texts. All reading and writing tasks continued to be very challenging and Alan often needed tasks modified for him in order to be successful. The problem for Alan was not that he was not learning, but that he was not learning at a pace comparable to most of his peers.

By the time Alan was able to read a picture book, many of his friends were reading novels. By the time he learnt to spell common words, many classmates were working with adult vocabularies. While Alan was browsing through the pictures of an expository text, other children were reading and remembering and learning how such genres worked to classify knowledge. Mark, in contrast, already understood the library classification system and seemed curious to know more. The very good news about Alan is that, surrounded by very talented

and high progress children, he had a vested interest in being able to 'play the game'. It was an accomplishment when he began to produce text and tackle assignments. However, the bad news is that Alan had not 'caught up'; rather he was in the frustrating position of being able to perform the surface features of a number of text-related tasks, but was unable to produce or comprehend complex text unless mediated by a peer or teacher. In other words his literate repertoire remained contained to short exercises and tasks. Yet when Alan was able to combine his more sophisticated talents in drawing and design with writing, he was able to achieve somewhat more. There may be clues here to a particular axis of literate practice upon which Alan may develop, which may allow him to communicate and represent his understandings and insights with some depth. However Alan was continuing to maintain his earlier pattern of preferring out-of-school activities that were active and physical rather than literacy-related pursuits. It was therefore virtually impossible for his mother to do much more than assist with his homework.

In contrast to Alan were Tessa and Mark; they both made rapid progress on starting school. In some ways both brought significant literate knowledge to school. Yet the kinds of literacies these two children were assembling and their trajectories were also different from each other. That is, there is not one normal or even one high progress developmental route. Mark's early development was quite uneven in that he had an unusual knowledge of numbers and letters (upper and lower case) but was less proficient in retelling or writing. Over time Mark did acquire these competencies and indeed his relative level of performance improved in relation to the cohort. Mark was indeed catching up on those items of his performance which had been at a lower level than others. Mark's BST results in 2000 confirmed his very high level of performance in numeracy and also placed him in the top 25 per cent of children in the State in terms of literacy. Mark's level of achievement may not have been anticipated at the start of school especially considering Mark's physical condition, which included deteriorating eyesight and muscle control. Mark enjoyed the kinds of literate activities which tests assess. He showed a clear preference for doing clearly defined tasks within short timeframes and he derived satisfaction from scoring well. He had already developed a kind of 'test literacy' or 'test know-how'. This observation is not to deny the accuracy of the test results which indicated that Mark had a high level of performance in some aspects of literacy. Yet it was also clear that, as the texts of schooling become lengthier and the products more visually complex, Mark's difficulties with vision and hand control might have an impact on his performance. Already his mother was encouraging him to practise writing longer stories at home on the computer. She was aware that extended texts counted further up the school.

The extra instruction and support Mark received at home was clearly making a difference to his performance. There were many concepts that he had been pre-taught, such as 'rounding off', reading clock faces and using the computer for writing and maths (and other) games. Mark had a highly developed understanding of money and trading and had been involved in several innocent 'deals' with other children at school. He was being explicitly taught what counted in terms of school performance by his mother and older brother. Because he did the Korean curriculum in maths and language with his mother he was being inducted into other ways of organising knowledge and learning. Mark was becoming quite analytical in the ways he approached school tasks and relationships. He appeared able to take up what was on offer in both places, and perhaps the contrasts between the discourses and practices helped him to work out what mattered in each site. Mark had to overcome many challenges to achieve success. He was not overwhelmed with offers of friendship and frequently spent time with his older brother's friends. He had only just started to ask classmates home.

Tessa's success story was somewhat different again and apparently temporarily subject to the ill-effects of social problems with her classmates. After seeming to float almost effortlessly from preschool to school and zooming ahead of most of her peers in the first few years of school, Tessa's progress slowed in Year 3. That year she was no longer above-average on all items tested. Relative to high progress peers and relative to her own performance, Tessa's

literacy development had slowed when measured on the project's ensemble of assessments. With regard to the BST in 2000, she had not performed to her Year 2 teacher's level of expectations. She was however located in the top 40 per cent of students in the State. In the Year 3 classroom there was evidence that Tessa was excluded and at times harassed by several female classmates. Sometimes she did not have an active role in the assigned tasks when working in groups or pairs. Sometimes Tessa appeared disengaged and disconnected in whole-class time. She was less enthusiastic in volunteering answers and had begun to mumble when required to read her work aloud in the whole-class forum. Although Tessa was still classified as a student of high intellectual potential, she began to act as though both her confidence and interest levels were waning. There may have been a number of factors at work. For instance, she had previously been with the same teacher, Eleni, since starting school and she may have found the change in pedagogical style in Sam's class difficult to adjust to. However, the change in Tessa appeared to us to have less to do with the curriculum on offer or the change in teacher, but more to do with Tessa's fractured relationships with friends. She had gone into a different class than the girls with whom she was friends. The class in which she had been placed included a number of highly assertive, vocal and academically able girls. However these same girls were not necessarily easy to get on with. Either they did not want Tessa in their group or in a couple of cases the girls themselves appeared to be loners or excluded by other girls. In other words Tessa entered a social mix which did not work for her. Even in Eleni's class where she had many friends, Tessa had shown a tendency to be bossed by female peers. In the new group this tendency made her extra vulnerable.

While Tessa continued to produce copybook work and keep her table and possessions tidy and organised, she appeared to have less investment in classroom occasions where the students were brought together to share what they had done. Whereas in the earlier grades she would have been first to volunteer, now she was reluctant and frequently faltered. Yet despite (what we hope will prove to be) a 'hiccup' in Tessa's overall trajectory of progress in school literacies, at home her predisposition towards textual activities had not ebbed at all. There she continued her passion for writing, drawing and reading. She pursued her interest in everyday literacies, such as the competition genre and reading maps. She requested extra homework. She read to her little brother. She built her collection of books. She made a small database of information on friends on the computer. She collected her parents' old credit cards. In other words at home Tessa was eagerly pursuing her own literacy curriculum and continuing to elicit pedagogical responses where needed. At home she was role-playing and assembling a range of adult literate practices that she would no doubt bring out at a later date. Like Mark she was engaged in pre-learning. She was learning to engage in literate practices which as yet there was no expectation that she would be able to do. But her early play and familiarity will probably count later. Tessa was able to get the assistance she needed, the material (significant amounts of books, stationery, computers, drawing and writing equipment etc.) and emotional resources (including family respect, space and encouragement) to sustain her self-motivated interest in literacy pursuits. There she applied very high standards of quality to her work and there she received praise and admiration for her efforts. With this level of support in place it appeared likely that Tessa would once again, sometime in the future, be the 'star' she was in preschool.

Alan, Mark and Tessa are developing different literate identities with different repertoires of practices. Alan's is very much restricted at this point to the literacies of schoolwork and, on a relative scale of performance, he is operating at a low level. Yet he is on the scale and that should not be discounted. There are also signs of potential, if he is able to combine his passion for art with his sense of humour and emerging literate practices. Mark is assembling very high level school and testing literacies, as well as sophisticated analytic orientations to social and institutional relations of power. His knowledge of numeracy is very high. The only immediate threat to his continued high educational trajectory relates to his deteriorating health. Tessa is also busy assembling sets of literate practices at home and at school. Her

focus is very much on the look and completion of her products. It is difficult to know when or whether she will move from her temporary plateau. As the curriculum becomes increasingly connected with reading and writing to learn in the middle primary years, it will be necessary for Tessa to re-engage fully with what is on offer. Simply maintaining her books and completing work will not be enough.

Sweetwater: Taking care of literacy

The Sweetwater school site, as a whole-school community, is one that takes its responsibility for success in literacy very seriously. Its results on Year 3 and Year 5 AIM tests consistently show parents and teachers that children within the school perform very well in reading, writing and spelling compared to children in other schools, even those in similar socio-economic locations. Children from Sweetwater are also consistently successful in gaining scholarships for entry to local independent schools and colleges at either Year 5 or Year 7. The school is well respected within its local community, and parents seem willing to be involved in their children's schooling, through participation in classroom or sporting activities, working in the canteen, or assisting with fundraising. Parents are regularly in the school, and the weekly school assembly is followed by a well-attended parents' morning tea and working bee organised by the school council.

All of the children at this site have made progress with their literacy since starting school in 1997. There has been a comparatively low rate of student attrition from this site, and the year group numbers have been retained over the course of our study. Similarly there has been little changeover of staff in the school as a whole over the duration of the project. The school is well run, it is welcoming and open to visitors, and appears to be moving along on an even keel. As in all Victorian government schools, the school council is responsible for the appointment and reappointment of the principal, and for approving all staff appointments and curriculum changes. The literacy curriculum on offer is now a well-established routine of explicit and systematic instruction, rich literary and textual experience, and response to local and environmental features and events. The junior primary teachers in Years Prep-3, form a strong team under the committed and reflective leadership of an experienced literacy coordinator. Literacy has been the top priority for them since 1997. From 2001, more emphasis will be placed on numeracy, given the school's less outstanding results in the areas of number and mathematical reasoning in the Year 3 Statewide tests.

Yet in spite of all this confidence, stability, and security in the success of teaching and pastoral care within the school, not one of the four Sweetwater focus children has had an even, steady process of development towards their present levels of achievement. Nor do we think that some of the children are achieving as well as they might. The most successful children in terms of their literacy achievement are Paul and Michael, both of whom were born into professional households where their mothers saw it as their own responsibility (and pleasure) to prepare their sons for success at school, and in life. Paul, however, faced difficult problems with social interaction, conformity to the routines and the crowded nature of the classroom learning environment throughout his preschool year and first year of school. Without the "head start", and the continued support that his home life has provided, Paul could very easily have found little satisfaction in school. As he has grown older, and his literacy precocity has grown less marked among his peers, he has been able to fit into, and come to enjoy, the discipline of classroom learning. His teachers have similarly been able to take steps to support his interpersonal relationships in the classroom because of school organisational policies that, for instance, placed him as one of only eight 'Preppies' in his first year of school. The seamless connection of his home literacy practices and those of the school have meant that he is able to draw on home experiences to make routine literacy tasks both relevant and engaging.

In this respect, Michael's experience has been similar to Paul's, and he too is achieving very successful literacy outcomes compared to his cohort and year. Michael's results in the Year 3 AIM tests place him in the top decile of the State for spelling, and close to this in reading. He performs below the median score for the State, though, in writing. This anomaly is easily explained when we remember that Michael suffers from cerebral palsy, and finds handwriting a slow and laborious task. Michael's home and school lives are intricately connected. His mother works at the school, his teachers regularly visit his home for meals and meetings, and he sees them often at other out-of-school activities. He finds no barriers between these worlds, and is able to construct both meaning and satisfaction in the curriculum on offer in the classroom. As he grows older, the attraction of school reading is waning, however, and he is more interested in worldly texts like newspapers, Internet sites and hobby manuals.

The other two focus children at Sweetwater have experienced school quite differently from Paul and Michael, and from each other. Jake started Year Prep against the advice of his preschool teacher and with a difficult family situation that has remained unsettled through his school years so far. His home circumstances are quite different from those of most other children in his class, and this is marked most obviously by his parent's lack of education, poverty, and interaction with the law and other welfare agencies. Because of this, Jake and his three siblings at Sweetwater have had trouble fitting in, finding friends to invite home, and seeing themselves as successful. Jake's mother was asked by the school to allow him to repeat Year Prep, and this was easily 'managed' because of the multi-age policy in the school at that time. Jake's literacy development has lagged behind that of his peers in all respects, and his regular absences from school, lateness in the mornings and lack of opportunity to practice his reading at home have impeded his progress. However, he made spectacular literacy progress in his third year of school. In this year a number of factors worked serendipitously in his favour. He was placed in the classroom of a gifted teacher who emphasised interpersonal relationships and an ethic of care within all classroom interactions. As a Year 1 child, he was eligible for Reading Recovery. In addition, his mother formed a living partnership with a man who found pleasure in parenting and sharing his knowledge of the bush and other cultural activities with Jake and his siblings. As the seasons changed, however, all of these factors changed too, and his literacy progress has simultaneously withered. He has found little connection between his home life and the experiences and literacy activities at school. He has found little that he can take for granted or build upon with confidence in the school situation.

Freya, the only girl among the Sweetwater focus children, and one of only 11 girls in the whole year group, has experienced a highly gender-specific form of schooling at Sweetwater. Because of the small number of girls in the 1997 entry cohort, the non-graded multi-age classrooms which provided small groups of 'beginners' within larger numbers of Year 1 and sometimes also Year 2 children, questions of social identity and schooling have developed as a problem for girls. In Freya's Prep class, for instance, she was one of only two girls. As groups have been merged and rearranged from year to year, the girls have found difficulty in forming stable friendships and a great deal of friction had developed among the girls around social relationships. The reading and writing that Freya did at school was quite simply less important to her than acceptance and friendship within her peer group. Her parents are both multi-media education professionals, and her home provided a great deal of stimulation and experience that connected only tangentially with the curriculum on offer at school. School seemed to be adding little extra value to Freya's ability to engage in the world as a successful social subject. Her literacy achievement was only average within her class group, though her class group performed well above the average for the State. She found many more opportunities to extend her repertoire of literate practices at home than at school and, indeed, she may well not need the print literacy that school provides for her in her future life.

As a site, Sweetwater has provided all of its pupils with an exemplary offering of systematic, purposeful and beneficial literacy experiences. Only two of the focus children have been able to take these up in the manner that their teachers intended. Aware of this, the school has

attempted to take care of more than just literacy in its school curriculum. This attention to social relationships has been of benefit to the children whose home and school literacy experiences do *not* permeate, support and extend each other. The school's efforts to ensure that all children are able to learn in a safe and secure environment has meant that these children are assisted to develop within the normal bounds of their age group. However their development is slower, less marked and less impressive than that of their age peers who have been able to cash in the capital their parents have invested in them for outstanding school literacy success.

Hillview: Making sure of success

Hillview is an older school in a well-established area of Perth. When the suburb was first established many of the houses were on small blocks of land and they were relatively inexpensive, but in recent times the suburb has become much sought after by young professionals. The school is well-resourced, with a stable teaching staff who are confident of their ability to deliver the form of schooling expected by the parents within the school community. Many of these teachers are very experienced and are well known by the parents. The teachers expect that all of the children will acquire literacy successfully even though it may take some children longer than others. The parents also believe that their children will meet success at this school and they monitor their children's progress very carefully. When problems occur with the progress of any of the children it is most likely that their parents will make contact with the school to find out how the issue is being dealt with. The school has comprehensive policies for students at educational risk and for improving the provision of information technology for all children in the school. It also provides specialist classes in music, library, physical education and French. The principal assumes that the parents are willing to provide extra support and resources for their children if there is a need.

No child at Hillview failed the Year 3 Western Australian Literacy and Numeracy Assessment (WALNA). However, a closer examination of the progress through their first four years at school shows that for three of the four case study children literacy development was often fragile. Casey, however, was the one child whose progress was consistent and who showed few signs of any difficulties as he made the move into school literacy. Casey's parents were both professionals who had well-formulated opinions about the schooling needed for their children. They had chosen Hillview for Casey because they felt it fitted his needs for systematic teaching and a competitive environment. His elder brother, on the other hand, attended an alternative private school because his parents did not believe the program at Hillview would suit him. Casey found the move from preschool to school both challenging and exciting. He was a mature child, who was well-organised, autonomous and had developed the phonological and semantic skills that allowed him to take up what was on offer at school with ease. He thrived in the formal environment of his split Year 1/2 class. He made a rapid start in literacy in his first year at school. He continued to make steady progress over the next three years and was extremely happy with his educational progress and the social relationships he formed at the school. His achievement on the WALNA test indicates that he was well within the average for the school cohort, although there were other children in the class who achieved as well or better than he did. These data suggest that he was continuing to make good progress although his rapid early progress had slowed as he moved through school.

Campbell and Mandy both had trouble adapting to school routines. They had difficulty adjusting to the sudden move from the informal routines of pre-primary to the more formal routines of school. Neither of these students had developed the dispositions that facilitated take up of what was on offer in the Year 1 class. For this reason, although they made some progress, they were not reading independently by the end of their first year at school. The capacity to organise their work and manage their belongings also caused these two students

some difficulty. The two students reacted to this situation quite differently. Campbell disliked not having opportunities to select his own tasks and move around the room at will, so he rapidly found distractions that had him seen as a 'naughty boy'. His behaviour worried other children in the class and it prevented him from focusing on the specific skills of literacy. However, he remained engaged when he was able to listen to stories and carry out craft or science experiments. It was apparent that the feminised curriculum of the early years did not suit the knowledge, skills and dispositions he brought with him to school.

With systematic teaching and careful monitoring of progress from a very experienced teacher, Campbell adjusted to school literacy routines and made good progress by Year 3. In the Year 3 WALNA assessments he performed very highly in reading, although his spelling and writing achievement was below his reading performance. Despite the progress he had made, his parents felt that his early reputation as a difficult child had resulted in him not forming strong friendships, so they moved him to another school where he repeated Year 3. He is now a happy, well-adjusted student with a range of friends who is achieving highly in literacy, although his writing and spelling still lag behind his reading achievement.

Mandy's concerns related to her capacity to form social relationships with other children. As an only child in a single-parent family, she lacked self-confidence with other children and was often unwilling to take risks. Mandy dealt with her shift to Year 1 by focusing on the social behaviours of the other children. She remained compliant, and, although she often took a long time to begin tasks and rarely finished them in the time taken by the other children, she was not seen to be distracting the other children or misbehaving in any way. Mandy's passive lack of engagement in what she was doing meant that it was often undetected and she was seen to be making reasonable progress. This demonstrates the way gender may lead to different constructions of children's classroom behaviours and their achievement in school.

Mandy has continued to make progress but not at the rate expected by her mother, who employed a special tutor and took her for testing at a child development centre. Mandy's mother is still not satisfied with her literacy development and feels that the school is underestimating her potential. Mandy remains deeply involved with the social life of the classroom and engages superficially with most tasks. She is making progress but remains near the bottom of this particular school cohort, although she is achieving above many of the children in the study. It does appear that gender may be working against Mandy. Her complacency in the classroom may be preventing her from getting some of the support that might help her engage more profoundly with the school curriculum.

Felicity's mother is a single parent and a university librarian. She is devoted to providing Felicity with opportunities to develop literacy, to love literature and to understand other languages. Felicity adapted to school routines most effectively. She clearly understood what was entailed in 'doing' school and she worked very hard to engage with the literacy routines of school and tried her best to be successful in them. Her poor health as a young child appeared to have impacted on her capacity to develop phonological processing skills despite the very strong immersion in literature her mother had provided for her. Her poor phonological skills meant that Felicity had made the least progress in her class by the end of her first year at school. Her compliance with the expected school literacy routines and the efforts she made to engage with these practices meant that she was not seen to have a serious difficulty by the teacher or her mother. By the end of her second year at school it was evident that she was not making appropriate progress and after consultation with her mother Felicity repeated Year 2. Her mother arranged private tutoring for her, which she felt had made a significant difference to her literacy development. By the time she completed the Year 3 WALNA test, a year after the other three children, she was able to meet the benchmarks, despite still having difficulty in decoding unknown words. Felicity's studious behaviour may have prevented her from receiving some of the special attention she possibly needed to overcome her phonological processing difficulties.

Campbell, Mandy and Felicity were fortunate to have parents with the social and cultural capital to monitor their progress very carefully. When the parents were dissatisfied with their children's progress, they discussed the problems with the school and also sought outside coaching for their children. As part of this monitoring of school progress Campbell's and Felicity's parents decided to give their children extra time by organising for them to repeat one of their early years. This appears to have paid off very well for Campbell and has allowed Felicity to work at class level with her younger peers, although there are still some concerns about her decoding skills. Mandy has progressed without showing a great deal of engagement with school learning. Her major motivation for going to school is the maintenance of the social relationships that seem to override most of what she does. Her mother still has concerns about her literacy development despite the school's assurances that she is progressing satisfactorily.

What the story of these children's entry into school tells us is that in the early years literacy learning can be precarious even for children whose parents provide a great deal of social and cultural capital to support them. This fragility can be related to the capacity of children to manage their bodies and the literacy practices of schools. It is apparent that a more gradual shift from pre-primary to primary pedagogy is likely to help many children take up school literacy with greater ease. Children's capacity to take up important skills, such as phonological processing, that underpin literacy may impact on literacy development. The success with which children manage their social relationships at school may also affect the outcomes of literacy learning. It is evident that particular ways of behaving in school may be interpreted differently according to gender and compliancy with classroom routines. It seems that those children whose parents have the educational background and social capital to monitor progress carefully, to provide extra support when necessary, and to engage in an ongoing dialogue with teachers and schools about their children's progress are most likely to end up succeeding in school literacy.

Getting literacies: What does it all add up to?

What new insights has following this cohort of children over time given us with about their early literacy development? How does the socio-economic, cultural, linguistic, geographical and racial diversity of the group inform us as literacy educators committed to social justice? What are the curriculum, policy and pedagogical implications of the project? The study generated a number of conclusions, continuing questions and implications which we address next. (For a summary of findings see the executive summary.)

1) Some late starters appear to be able to make up ground in some aspects of literacy, but 'catching up' is a rare privilege

Not all children learn to read and write rapidly on entering school and there is considerable pressure on the children, their families and their teachers for them to 'catch up'. Which children are able to make up significant ground (and what does this entail) and which other children do not? If we take the separate cases of five boys who were relatively slow to orient to literacy learning at school – Campbell, Alan, Jake, Sean and Aston – then we can begin to see that it is much harder for some children to 'catch up' than others, 'all things being equal', because indeed all things are not equal.

For instance, Campbell who began slowly and was below his peers in the early rounds of testing scored above the 90th percentile for reading in the State (WA) in Year 3 and at the 75th percentile for reading when compared with other children in his class. Being behind one's peers at Hillview is very different than being behind one's peers at Gibbs Crossing. Nevertheless the early project testing had suggested that Campbell was below the larger cohort in some aspects of literacy, in writing, sight words, book levels and so on. However a

combination of factors made it possible for Campbell not only to catch up but to excel in some areas. Campbell's escalating progress and comparative re-positioning can probably be attributed to:

- gradual adjustment to school routines;
- strategic repeating of a school year, by a change of school;
- responsive diagnostic teaching;
- family supplementary literacy instruction;
- material literacy resources (personal library and computer);
- social and cultural capital;
- his belief that he will read and write.

Even though some children at Hillview, including Campbell, had significant struggles with early literacy learning in comparison with their peers in their context, it seemed likely that they would catch up. Indeed it was not a question of if Campbell was going to catch up and excel; it was always a question of when. In fact, he was never that far behind when compared with children in other places.

In contrast, let us take the case of Alan who, while he made substantial progress in three years of schooling after a slow start, is still somewhat 'behind' his peers. Alan did not sit the BST. His mother was reluctant, the principal explained, for her children to engage in system-sanctioned activities such as testing. She was suspicious of the school at times also. Yet she also passionately wanted Alan 'to be up with everybody else'. The project testing and observation indicated that Alan was clearly making progress in comparison to his earlier efforts, but that his progress was uneven in different aspects of literacy and that his level of performance was still significantly lower than the average for the cohort. Alan's progress can in part be attributed to:

- gradual adjustment to school routines;
- responsive diagnostic teaching;
- family supplementary literacy instruction;
- his emerging desire to be able to read and write.

However, his continued relative low positioning raises a number of dilemmas. What would Alan, his family and his teachers need to do in order for him to significantly alter his literacy status? Alan's family were committed to his continual improvement and insisted (as far as this is possible) that he complete his homework, which as his mother pointed out meant her doing it with him and often without full understanding of what was intended. For his part Alan had started to engage in literacy-related tasks, but he simply spent very little self-selected or extended time on literacy-related practices out of school. He had not yet learnt to read for pleasure. He did not have a computer at home on which he could search the Internet. He no longer took books home from the school library and in Year 3 there was no class library. Hence while Alan was now learning from what was on offer at school, it did not compensate for his late start and limited practice. As he grows older and progresses through school we can see that he will need some luck to 'catch up' or even to maintain the gains he has already made.

Jake, like Campbell and Alan, was also reported as making a difficult transition to school life. Dubbed as 'the worst kid in the class' on his first day of school, Jake's apparent badness had more to do with his patterns of behaviour and unclear speech than to lack of interest in school or unwillingness to attend to literacy activities. He was physically and emotionally less mature than his classmates, and he had not had the opportunity at home or in the full-time, long-day, childcare centre where he spent five days a week to acquire a habitus that incorporated literacy as part of his being and interacting in the world. All his learning about

literacy needed to be done at school – but he was the only child in his class for whom this was the case. He and his siblings, along with his mother, had endured the effects of family breakdown, frequent changes of dwellings and a low household income, and the insecurities associated with this lifestyle afforded Jake little emotional energy to invest in learning to read and write. For Jake there was no ‘value added’, no pleasure in the recognition of text or familiar language patterns to be gleaned from the literacy activities in the classroom. He simply went (mechanically, often, because he did not understand what he was doing) through the motions, doing his best to be like the others. He did gain pleasure from working alongside other children, and wanted to be like them, particularly the bigger boys in his non-graded, multi-age classroom, where many of the Year 1 boys were eager and successful literacy users.

Jake was often absent, or late to school, and consequently missed much of the introduction and teacher scaffolding of daily literacy activities. Where the teacher needed to work actively with other children for guided reading, there was no opportunity to assist Jake to make sense of the tasks he was undertaking. His progress was slow, remaining very much below the norm on almost every one of our test items through 1996 and 1997. After his first year at school, Jake was able to repeat his Prep year in a different classroom, moving ‘along’ if not ‘up’ a grade! In 1998, the additional time that this provided, accompanied by the additional expertise of a very experienced teacher, provided Jake with a much stronger foundation to enter Year 1. In comparison with our 100 children, his entry cohort, though, Jake’s literacy development in 1998 still appeared remarkably low, and these results must be read with the knowledge that he is no longer in the same year group at school. In comparison with his new classroom peers, his achievement was quite satisfactory, and he entered Year 1 with ‘below-average’ results in comparison to those of his new classmates, but he was by no means one of the children experiencing most difficulty. However, by September he was in the bottom 10% of the class and eligible for Reading Recovery. By that time, he had been ‘overtaken’ by the other children who had been ‘below’ him in terms of reading.

Sweetwater instituted a Reading Recovery program in 1997, as part of the school’s emphasis on literacy. As mentioned above, Jake was not eligible to enter this program until September of 1999, when those Year 1 children deemed more needy than he was had received the additional instruction and had returned to the class reading at the class average. Jake’s test results in Term 3 indicated that he was now among the three lowest achieving children in the class, and he therefore entered the Reading Recovery program. The results are startling on our testing later that year, when Jake, as a Year 1 child, still scored significantly below the mean on all our Year 2 test items *except* the reading items. Jake has continued to have little literacy support out of school, but in his repeat Prep and Year 1 classes he did have the benefit of careful and well-programmed teaching that allowed him to progress at a rate equivalent to his high achieving Sweetwater peers. In Year 2 in 2000, however, this progress had again slowed, and his entry cohort had far outstripped his performance in reading as well as in the other test items on our test results. Such comparisons now, however, mean little, as we have no comparable data on the achievement of Jake’s current classmates.

Sean, in different circumstances, had not really made progress and in Year 3 he had been suspended from school three times. He had not yet become socialised in school routines; indeed his approach was often both self-destructive and subversive to the classroom ethos. At this point Sean was not taking up what the school had to offer. In fact he often rejected it quite forcefully. His mother sometimes kept him at home when he was in a bad mood. The assessments that Sean was able to complete show some slight progress, but they clearly demonstrate that the gap between Sean and most other children in the cohort was getting substantially wider. Alan was able to do a lot more than Sean, for example, and we know Alan still had difficulties himself. Sean had access to sympathetic and skilled teaching, but he frequently refused what was on offer, increasingly finding other ways of defining himself as a ‘boy in school’. As one researcher put it, Sean had a very rich literacy diet but could not

digest it. This repertoire of practices did not match with who Sean was, or who he wanted to be.

Aston's story is desperate. His lifeworld and the lifeworld his teachers expect of young children are very far apart. He arrived in preschool speaking a dialect of English, without any letter knowledge or experience of books, and made little progress during his intermittent experience of school. During the first year of schooling, according to the school's long-serving Aboriginal and Islander education worker, his parents both had new relationships and neither of the new partners was keen on having him around. He had attended about half of the school days in five years, and had never really adapted to school routines and expectations. One-to-one, outside the classroom context, he still seems intellectually sharp and socially successful. He was both willing and persistent on the 2000 assessment program, but was generally regarded by the teachers as difficult to manage. In Aston's case, almost all of the possible reasons for lack of progress are present: a precarious homelife; poverty; a poor match between home and school cultures; intermittent attendance; inability to meet school expectations; generally indifferent teaching; a school with many such poor performing children; and no teacher or parent who intervened to champion his interests.

In some cases school has not provided some children with tasks and activities that connected with their needs, dispositions and ways of operating. The case studies provide potent evidence of how difficult it is for children to overcome or match the advantages of other children who go to school with the cultural capital that allows them to adjust more quickly to literacy learning as an institutional practice. Some teachers bend over backwards (such as Eleni with Alan, Ms Mack with both Freya and Jake as Munchkins in successive years, Catherine with Reena, and Campbell and his motivating but uncompromising Year 2 teacher) to re-offer literate practices as palatable and in tune with who individual students are. Alan, for instance, did find a place for himself as a boy in school and began to learn to read and write, and Campbell overcame a shaky start to become a competent and independent reader.

The important point here is that some children who have access to considerable supplementary educational resources and capital at home do appear to be able to catch up. However a slow start in school literacy combined with difficult living circumstances at home is very difficult to overcome. We did see evidence of some teachers, parents and students making significant inroads into literate practices later in school, but we do not know whether they would be able to sustain let alone enhance the gains they had made. Clearly some children have access to different opportunities for literacy learning and play at home which make a difference to what they are able to take up and make use of at school. Campbell was always going to learn to read. Campbell's engagement and learning from books as a preschooler was already more sustained, satisfying and a part of who he was than Alan's experiences with books in Year 3. They may have both learnt to crack the alphabetic code in Year 2, but Campbell already attended to texts like a reader and a learner, rather than regarding them as alien or uncomfortable objects. He already knew how to make them work for him (even if he still needed a parent or teacher to mediate). Other children however, who were also late to crack the code, had not yet found ways of connecting to text-based forms of pleasure, learning and work. In this study it was apparent that catching up on the literacy ladder is a privilege reserved for the already advantaged.

2) What counts as success in literacy varies in different school communities

The above discussion suggests that what counts as success in literacy varies. Being successful in literacy at Gibbs Crossing was very different from being successful at Hillview. A student might be behind at Hillview but way ahead of peers across the State or conversely a student may be top of the class at Gibbs Crossing and be below the State average. In other words, in terms of measurable literacy standards, the average performance differed markedly between the school in the most affluent area and the school in the poorest area. When the social class

background of families contributes so much to individual and school performance, it is unhelpful and potentially damaging to draw hasty conclusions about the effectiveness of schools. The distribution of scores at the highest and lowest performing schools were indeed very far apart (at Hillview and Gibbs Crossing), but readers interested in judgements about effectiveness would need to know how children in these schools performed in relation to other similar children in similar schools. Researchers interested in such questions usually make calculations about comparative performance of ‘like schools’ or about ‘value added’ from one time to another. The *100 children* data set did not lend itself to either of these forms of analysis. Some indirect information was available on several of the schools from the Statewide assessment programs. BST results for Riverside, as we have already mentioned above, were strong in comparison with the whole State, and at least as good as a ‘like schools’ comparison group. Sweetwater school, too, was highly placed in comparison with a group of like schools in the Statewide AIM tests. Similar information was not available on the other three schools in the study.

Considering children one at a time, teachers know their class much better than a standardised test can show. The State assessment programs are just a sample of children’s work: some particular tasks on some particular days. Some of these tasks are inappropriate for some children, such as Michael from Sweetwater whose physical disability prevented him from scoring well on the writing assessment. Even when the test items are a fair assessment of the curriculum the children have experienced, standardised assessments inevitably give priority to items known to distinguish among school children rather than the broad set of literacies observed at home and at school in this study. There is, however, some modest value in teachers knowing and talking about their children’s performance in Statewide assessment programs. Even with the caveat that the tests are just a sample of performance and that some samples will disadvantage some students, there is value in comparing in-class performance with standardised test performance from time to time. Often the results will be unsurprising, but, where there is a discrepancy, it may be worth questioning whether the test has mis-measured the child or whether class work is too simple or too challenging. Used cautiously and in a low-stakes frame of school improvement, like-school or value-added calculations can help schools with many high performing children, such as Hillview, work out whether these children are doing as well as they might in another school. Similarly, schools working with low performing populations can work out whether they are being more or less successful than similar schools in helping children to reach their full potential in the kinds of school English literacies assessed in Statewide tests. There are differences in what counts as success in literacy from one school to the next in this study, and feedback from benchmark assessment programs is one way in which teachers can generate some information about their success in comparison with schools serving similar social groups. All this, of course, presumes that such tests provide a fair sample of the literacy curriculum children should and have encountered; that the results are not over-interpreted as superior to classroom teachers’ judgements about children; or misinterpreted as unequivocal evidence of teacher effectiveness or school effectiveness.

3) What counts as ‘at risk’ in literacy varies in different school communities

It takes a lot more to be at risk at Gibbs Crossing than it does at Hillview, Sweetwater or Riverside. Hence a child is more likely to be identified as at risk at some schools in some classrooms and offered specialised or supplemental teaching than in others. While Korbyn was the best in his class at Gibbs Crossing, he may well have been identified as at risk at Riverside or Hillview. Children are judged relative to their peers. Korbyn can do more than most of his classmates, so he became relatively successful, yet the literacies with which he is successful are more limited than those to which Campbell and his peers have access both at home and at school. The principal at Riverside recognised that the way to avoid large numbers of children performing at a low level was to identify them early, specify the particular kinds of help needed, and keep providing it until it made a difference. For some

children, such as Alan, this meant receiving specific extra help within the classroom throughout the early years and into primary school. Other schools such as Sweetwater put significant resources into Reading Recovery, and the effects of this on the confidence and competence of individual children are pronounced. For Jake, the ten weeks' experience of regular one-to-one interaction with a supportive adult around books and reading was a small taste of the years that many of his classmates have experienced of this type of support at home. The benefit to him was enormous, particularly as the 'average' standard of the class to which he belonged was already high in comparison to that in other schools.

At Gibbs Crossing and The Wattles a large percentage, if not the majority, of the class was considered as at risk, just by living in the community and attending that school. In such circumstances individual children might be seen as average or performing at a reasonable standard when the standard was in fact lower than would be accepted elsewhere. Despite very small classes at Gibbs Crossing – usually no more than a dozen children in each class each day – there was little evidence that any children received the kind of focused personal attention available to Campbell or Alan.

4) A high progress start does not guarantee continued high progress

There has been considerable emphasis on the early years with regard to literacy learning. The hypothesis is that it is very difficult for children to 'catch up' if they don't acquire independent reading and writing practices early in school. We have already discussed that 'catching up' is not easy especially if one's life circumstances are difficult, but that it is not impossible when teachers, parents and children make it a priority. It is also often assumed that children who learn to read early would maintain their gains in literacy throughout schooling. However this study suggests that children's trajectories may be uneven and that high and early progress does not automatically guarantee continued high progress. A number of factors may interrupt a high progress beginning. As we have seen in Tessa's case, social relations in the classroom seem to impact on literacy performance. Family traumas, moves and illnesses can significantly interrupt children's learning. In addition what is measured as 'literacy' begins to shift in ways that may impact on relative performance. For example, as children progress through school reading assessments are increasingly likely to test for children's understandings of facts and relationships in texts. Some children may be less experienced with these kinds of reading practices than they are with the kinds of reading tested in the early years. It is not only that who is 'high progress' is an effect of testing but that in fact new forms of literacy are expected. A number of children, many of them girls, whom we had anticipated were likely to zoom ahead on the basis of their very early literacy performance, seemed by Year 3 to have 'become average'. Another way of putting it is that they were now comparatively less accomplished than we had expected in some aspects of literacy. It may be that the 'new forms of literate practice' that children were asked to display at this time required significantly different understandings, strategies and techniques and these new forms of literate practice required overt instructions.

5) Matching of community and school expectations for literacy and schooling is hard to achieve

The five schools all served very different communities, as we have already discussed, and within the school communities were families who had different and sometimes difficult relationships with the school and its staff. Some parents in each of the five schools experienced significant differences, misunderstandings and communication breakdowns about their child(ren). The kinds of difficulty also varied. In some cases parents believed that the school staff had misjudged their child in terms of development or behaviour. Alan started school with the traces of his older sibling's pursuits and the related conflict between the parents and the principal firmly established in the school folklore. It would have been difficult for him to be ordinary. To his teachers' credit they made home visits and rebuilt positive relationships with Alan's mother that very much improved his attitude to school. Parents

whose children significantly misbehaved at school and either threatened violence or physical damage to property were in a particularly difficult situation. If they insisted their children go to school, they risked further incidents and even legal repercussions, but if they allowed their children to stay at home the children would miss yet more of the curriculum and instruction.

Children like Paul at Sweetwater, who arrived at school with a preschool history of social difficulties in relating to peers and adult authority that contravened his own wishes, needed careful handling by teachers who shared neither his parents' knowledge of his capabilities nor their confidence in his eventual conformity. Paul did eventually 'settle in' to the new community of school, and has thrived as he has gained acceptance and confidence in his 'place' at school. Other children have found that finding a place in school. Freya, for instance, as one of only 11 girls in her year, has found that more energy and industry at school was needed to be given to fitting in and finding and maintaining friendships than to her work. With a supportive and creative home life, though, she has managed to 'tread water' at school and make steady, acceptable and 'average' progress.

In the case of Gibbs Crossing the chain link fence that surrounded the school proved a surprisingly impermeable barrier. Some attempts were made to improve attendance by running an informal school bus pick-up service each morning. Children were offered hot meals at morning tea and lunchtime, and hot showers and clean clothes were available if they chose to use them. Some aspects of the school had an Indigenous influence, such as the pottery made by children during art lessons and the songs sung at the early morning assembly. Community interaction was encouraged by events such as 'bush days' involving community members. For all this, most of the literacy lessons we watched were surprisingly suburban and few of the teachers were as enthusiastic as Catherine about contact with community members.

Yet just as difficult as it was for some parents to form a dynamic and positive connection with the schools and their educators, for others a significant match was achieved. Tessa's mother had gone to school at Riverside and still lived in the community. Tessa's first two teachers were well known to the family and in both cases they had been happy with her placement in the class. Mark's parents had worked hard to develop a close relationship with several of his teachers. When their older child attended Riverside, he had a significant reputation as a gifted but (at times) difficult child which had led to the parents forming close alliances with his teachers. Working in the school as an aide, Korbyn's grandmother was a constant presence who provided him with a powerful home-school link. At Hillview, Campbell, Mandy and Felicity all benefited from their parents' close involvement with the school and their close monitoring of progress. When progress was slower than expected, the issues were discussed with school staff, outside help was sought, and children changed schools or repeated a year.

In each of the school sites we witnessed parents, teachers and principals working hard to make connections. In the cases where it was achieved there were benefits for the children. Michael at Sweetwater, for instance, benefited greatly from his mother's physical presence in the school as a teacher. His disability has been dealt with as a matter of fact because she has worked hard to ensure that all teachers know Michael's strengths and limitations, and her desire that he should learn to live positively and accept his difference. As he has grown older and sought more independence, her presence in the school has allowed teachers to provide a wider range of experiences and have higher expectations for Michael's performance than might otherwise have been the case. The teachers' shared sensitivity to his growing awareness of his physical limitations resulted in his Year 2 teacher taking careful and loving (though quite unscientific) steps to help Michael cope with fears arising from the powerlessness that his disability meant for him as a 'man', by 'burning' the 'worries' that she saw interrupting his thinking during class time.

6) Some parents provide a great deal of supplementary resources and tuition

It has been recognised for many years that parents are indeed their children's first teachers and that what is provided at home is a crucial foundation for what is on offer at school. The importance of parents in children's transition to school and in supporting the learning to read process has been stressed. Yet parents' ongoing work in supporting their children in primary school may have been under-estimated, both in terms of the amount they do and the extent to which it continues to impact on school literacy progress. We saw and heard accounts of the efforts parents were making to supplement what school provided.

The provision of computers at home along with access to Internet and e-mail was marked in many of our case studies in comparison to the amount of time and the nature of computer use in school. Michael at Sweetwater, for instance, buys and sells numberplates and maintains a database of his collection at home, while at school he attends a half-hour whole-class weekly lesson where he is 'taught' to change font. Similarly, many children receive a large amount of cultural experience coded in film and video, in the company of their parents. In the Sweetwater site, the parents of three of the four focus children had taken them interstate or overseas on family holidays, where the educational value of the travel was seen as a significant contribution to the children's social and intellectual development. Michael was taken to the Paralympic Games, Freya's family travelled to Canberra, and Paul's parents took their children to South-East Asia.

However some parents were not in a position to supplement what the school provided in terms of academic education or Standard Australian English. Their own experiences of schooling may have been limited, unhappy and unhelpful to their children. These cannot be changed. The danger is that what children are able to take up in school relates to the extent to which they can make use of it in their everyday lives and communities. Sean, Aston and Reena are living lives where school literacies have little currency or immediate pay-off. It is hard for them to see why they should bother. Their parents are unable to either supplement what school offers or to validate its goals and values in ways that make a difference to these children.

At Sweetwater, Jake's mother sees her own lack of education as a disadvantage in life that she does not want her children to share, and so makes a substantial effort to keep them at a school which she knows has a reputation for providing a high academic standard. She trusts the school to provide for her children what she knows she cannot. One of Jake's two older sisters has left primary school without moving on to the 'academic' high school in the town. And as Jake's growing lack of fit in the school community becomes more apparent to her as he grows older, his mother is becoming increasingly disillusioned and critical of the school and teachers. Her investment in her children's education is not bearing the dividends she hoped for.

7) Children are assembling different literacies

As the range of activities children engage in outside of school expands for some children as they grow older, and they are produced by these (or by the lack of these) as certain sorts of social subjects, they make different sorts of connections with the literacy practices of schooling. Several of the girls in our study, for example Tessa at Riverside and Freya at Sweetwater, found that popular culture provided more attractive forms of literacy (often incorporating image and design) than those offered in school. Their hybrid 'pretty literacies' often reflected those of the magazines, websites and television shows they found attractive. As a commercial audience themselves, they were able to appropriate the signs and images they related to into their schoolwork.

Those children who have begun school literacy successfully seem to find little problem with producing for themselves a permeable curriculum (Dyson, 1993) where their own knowledges

are able to infiltrate into their schoolwork as content in their talk, writing and reading. This of course allows them to work idiosyncratically within the acceptable boundaries of successful literacy practice, which can take several forms. Alan was unable to produce or comprehend a complex text unless it was mediated by a peer or teacher, but managed to achieve more when he could bring to bear his substantial talents in drawing and design. Mark's writing and textual production is messy but his achievement is measurable. What Comber and others (Comber et al., 2001) have called 'sheet literacies' (those forms of textual practice involved in filling in blank spaces in worksheets, preconstructed questions to test reading comprehension, and brief short answer responses that do not require thoughtful construction of language) comprise a large part of the practice of schooling across all sites.

Most children are familiar with and well used to the forms of literate practice that are acquired (Gee, 1991), often unconsciously, through participation in the social practices of classroom teaching and learning, after being explicitly taught by teachers in the first year of school as part of the routine management of literacy. All children in the sites we studied were expert at giving out sheets, writing their name at the top, having work date-stamped, taking it to the teacher to be marked, and storing it in their trays, workbooks or schoolbags when it was finished.

Success at sheet literacy is not the same, however, as success at textual production of other kinds, such as narrative, keeping a record of books read over a term, a personal response to a poem or story, or reporting on a visit to the zoo. The range of literacy practices made available to children differs across schools, and also within schools, and children are acquiring a range of different repertoires of practices within what is on offer to them.

8) Children are at different points of development on multiple axes of literacy

What children write about and the nature of the experience that children bring to the literacy activities they engage in varies according to the experiences they have outside of school. The school environment does not always provide knowledge 'about' the content of texts, and some children quite literally do not have very much to say about some of the things they are asked to talk and write about at school.

We found that this can have serious repercussions over time. In the case of children such as Jake, for instance, whose weekend experiences were often limited to watching videos and playing in the yard, there is little opportunity for him to use classroom routines as worthwhile literacy 'training'. His regular Monday morning journal writing afforded few opportunities for him to extend his repertoires of word use, sentence structure or engagement with new or challenging language concepts. 'On the weekend I stayed home and played', provides little room for extension. When other children struggle with recounting trips to the beach, or football games, or visits to relatives, they are building up their literacy repertoires through selection of detail to include in their recounts, piecing together complex sentences, and using different forms of modality, tense and structure to put their ideas on paper.

With this sort of practice they strengthen their performance in other sorts of tasks, across the entire curriculum. Teachers have little control over what children have to write about, or to bring to the texts they read in the classroom, and this means that children are acquiring multiple literacies across different axes. Sheet literacies take you only a certain distance. The long, slow practice of 'acquiring' competence and expertise across the sort of literate practices that count as children move up the school is necessary from the beginning, but those children we see doing well in school are those whose home experience counts as currency at school. In particular there is little success for boys who have only the video game or South Park as models of literate practice. This is not because these are not good models; they are. But they are not recognised as adaptable for school, and when used as sources of the content of writing or talk are less valued than other, conventional models.

Analysis of the content of the writing of the successfully literate junior primary boys in our study, for instance, shows that they do not (like Sean at The Wattles and Jake at Sweetwater) write about committing murders, vomit, blood, pus, farting, smoking and burping. They are able to draw upon much more ‘tasteful’ and ‘refined’ topics. Successful boys still write about football, cars, racing, criminal activities and violence, but often as observers, distanced from the action, and somehow not implicated or marked, themselves, as uncouth.

9) Teaching which makes a difference is based on a careful analysis of what children can do already and what they need to learn

Several teachers within our study, once aware of the range of (and the gaps in) the experience of their pupils, worked carefully to build on the children’s interests and needs. The value of providing a shared experience, around which language can be generated and produced and ideas recorded and read, is well known in early literacy education, and continues to play a significant part in successful teaching. Mrs Longheart at Sweetwater for instance, used the class swimming lessons as a source of oral and written recounts, written information reports and as a link to shared reading and discussion.

At Sweetwater, there was significant emphasis on the regular assessment of children’s progress and achievement, and individual children who for some reason or other caused their teacher to suspect that they might be falling behind were often tested individually to determine specific learning needs. What the teachers called ‘The Program’ (a daily two-hour literacy block with children grouped according to reading level and programmed for regular, guided reading time with their teacher several times a week) provided a supportive structure for both children and teachers. The junior school staff at Sweetwater had collaboratively worked to change their teaching practices to include explicit and systematic, outcomes-based literacy instruction for the children during the first year of our study. They were satisfied with the learning that *they* as teachers had achieved over the first year of this innovation, and as a group they reflected and discussed from year to year what they would work on to improve the following year. They were also extremely pleased that their efforts had appeared to pay off, with many of the children making very good progress on the syllabus outcomes specified within the curriculum documents. Their teaching had focused on what the children could do, on grouping together children of similar abilities at any point in time, or on any particular tasks, and leading them from that point towards the further literacy outcomes specified by the syllabus and curriculum support documents.

This structure was both supportive for the teachers, and helpful to the children’s learning. Success in literacy was a high priority at this school, as we have mentioned above, with Reading Recovery provision for all Year 1 children who fell markedly below the average reading level of their class. With the school performing at a very high level in comparison to other schools in the State, children deemed eligible for Reading Recovery at this site would most likely not be considered eligible in other schools, where the class average might be much lower. This of course leads us to suggest that the choice of school can make a difference for children who might not bring with them to school sufficient cultural capital to ensure that they are able to bridge and align the literacy activities made available to them at school with what they already know about and can do at home or in other social contexts.

10) Literacy lessons which engage children make use of familiar language, processes, genres, concepts, information and media, whilst introducing new practices

Teachers can make an important difference by recognising and acting to overcome the mismatch of the child’s language, knowledge and modes of expression with those forms that are seen as marking literacy success at school. This is where those teachers who provide children with the confidence to take risks, as they extend their repertoires of practice in performing new or challenging extensions of familiar tasks, are to be most valued. However

many teachers find it difficult at times to see beyond either the desired outcomes of a mandated curriculum statement, the difficulties that a particular child's behaviour or attitude poses for smooth social relations within the classroom, or unconscious expectations of slow growth and limited success in Standard Australian English literacy.

The downside of the successful literacy 'program' at Sweetwater, for instance, was that, in focusing on what the children can do with literacy at school, there seemed to be little opportunity for teachers to focus on what the children could and were doing out of school: their interests, enthusiasms and concerns. At the end of the first year of the program, an outstanding teacher at Sweetwater commented that she could tell us anything we wanted to know about the position of any one of her children in relation to the literacy outcomes specified in the syllabus, but that for the first time in her career she felt that she didn't actually know her students as people. The teachers at this school sought to solve this problem through adaptation and relaxation of the structure of the program, increasing children's attention to caring for each other as classmates, and increased efforts on their own part in getting to know the children, their parents and their out-of-school activities.

This school is not in a small or centralised community, so that even though the teacher lives in the 'neighbourhood' she does not know or take part in the sorts of activities that her pupils engage in out of school. Bringing popular culture into the school has not been easy; there has been regular 'banning' of popular toys such as *Digimon* and *Pokémon* cards, because they are seen to cause bullying or to distract children from their learning. This has the effect of closing out popular texts and cultural technologies from school literacy practices. Leaving the curriculum 'impermeable' means that there is little support for children's risk-taking in their meaning-making, shaped as that always is by the full repertoire of semiotic and cultural resources available to them.

11) The effects of poverty interrupt the literacy education of some children

Our study has clearly demonstrated that some children are 'luckier' than others born and educated in Australia. These are the children whose parents, growing up after World War II in an economy that promised and for the most part has provided economic, cultural and social opportunity for the well-educated, have accumulated the capital from their own educational investment and passed it on to the next generation. These children gain a great deal from our States' school education, and their futures and destinies seem relatively assured. It has been salutary in this study to witness at first hand the quality and type of investment that many parents take pride in making in their children. This is not easy work for them; they choose to engage in activities that will support and extend their children's learning, at the expense of other choices available to them. These parents quite clearly seek, and help, to maintain the highest quality educational opportunities for their children in the school system, and for the most part are well rewarded for their efforts.

The point is that they do have a choice, and the means, to follow through with their decision to actively intervene and support their children's literacy and learning. Other parents, though, are not so lucky, and neither are their children. In using the word 'luck' here, we are not wishing to suggest any more than what we understand as the fact that no child gets to select the family she or he is born into. Children have no choice. The effects that sustained poverty can have on children's literacy experiences, repertoires and ways of being in the world are severe. If schooling is to make a difference to the lives of these children, to allow them access to as wide a repertoire of literate practices and range of literacy experience as possible, then schooling that excludes their existing range of literacies is not acceptable. When only some children are able to make use of their out-of-school experience in the production of acceptable school texts, conversations and responses to texts, and when these children are the ones who appear to learn most and most successfully at school, the pressure is towards intergenerational increases in educational inequality.

Conclusions

We have been fortunate in the longitudinal nature of our research design in that the early measurements of children's literacy achievements on the tasks we set them have been followed through over successive years. Most children who arrive at school well on the way to accomplishment in school literacy tasks remain well placed in relation to the group on measurements of literacy achievement. Most children who arrive at school with little cultural capital to cash in for literacy remain short-changed. We have no 'rags to riches' stories to relate in this project. The one child who conspicuously overcame early lack of success, Campbell, had substantial support from home and was lucky to encounter the teacher he needed in Year 2. The importance of good teachers has arisen for us a key factor for the literacy of the nation.

We have several good news stories, where careful teaching has resulted in literacy growth and positive attitudes to schooling in ways that can only be seen as successful and beneficial to large numbers of children. Every child in the study has learnt a great deal that they can use to indicate progress along the developmental continua that characterise literacy development in our school and system assessment tasks. From the evidence of our observations and interviews in relation to the assessment data across the five research sites, though, the sorts of classrooms where children are learning happily and well are characterised by teachers who aim to teach the child as well as the syllabus. This appears to be a truism, but our work has underlined the need for teachers to be knowledgeable professionals who take their ongoing learning and professional development very seriously. Teachers who are most successful in setting up and managing classrooms where children have consistent success and make consistent progress are informed about current and conventional theories of literacy development and instruction.

Few Australian schools choose their students, and none of these schools were included in this study. More often, especially in the early years, children attend neighbourhood schools. For schools in some neighbourhoods, the task of developing young children's literacies is more difficult than in other neighbourhoods. Children in some schools are luckier than others, in the sense that 'doing school' comes easily. In these schools, most children already have appropriate dispositions towards school and participative repertoires that match school routines. But even in lucky schools, there are some children who lack the social dispositions and bodily repertoires they need, and who need more time to learn and more support if they are to become successful literacy learners. Sometimes this additional support is available from both home and school. At its best – and there is plenty of evidence of the best in this study – caring, responsive and knowledgeable teaching is complemented by patient, vigilant and energetic parenting. At other times and places, only the teachers have a sense that particular children or groups of children are not progressing as they should. In these schools, it should be possible to do more to build the links between home and school, to develop local responses to differences between the cultures of home and school. But where this does not happen – and there is plenty of evidence in this study about places where home-school links are weak – the best hope children have is the efforts their teachers can make. For many children in unlucky schools, and for a few unlucky children in every school, knowledgeable, energetic, culturally responsive teaching is necessary if they are to make adequate progress in school literacy. The evidence of this study is that such teaching is often available, but this is not always the case. In some schools, our present system fails some of its youngest citizens from the first day they come to school, and continues to fail them as they turn 10 and move beyond the early childhood years of schooling.

In conclusion, the study *100 children turn 10* has followed children's literacy trajectories from preschool through the first four years of school and found there has been substantial

growth in school literacies for most children. Almost all were able to read accurately at book levels 27 or 28, which approximates a reading age of between 9-9.5 years of age and typically includes elaborated episodes, extended descriptions and literary or technical vocabulary. Almost all were able to produce extended written texts at or above the national writing benchmark for Year 3. About two-thirds of students recorded a spelling age equal to or above the approximate mean chronological age of the group. By the time the students completed their fourth year of formal schooling, there was a very broad range of performance on these and other dimensions of literacy. For every child whose spelling age was two or three years greater than their chronological age, there were others who were still struggling with the decoding skills that most children had mastered in the first few years of schooling. As the site studies show, the lowest performing children overwhelmingly are located in schools serving children living in poverty.

The study of *100 children turn 10* found that there was a very broad range of performance on literacy tasks. This finding requires attention and action. Action does not mean more of the same but rather the need for all teachers to work together to create and share knowledge about good early years literacy teaching and appropriate early intervention for students who require support. In addition there is a need for a second safety net after the transition to primary school for 8-9-year-old children who have not acquired the automatic literacy skills and strategies needed to reach their full learning potential in primary school. Good first teaching, effective early intervention and a second safety net requires that all teachers are energetic, knowledgeable and can practice culturally responsive literacy teaching.

List of acronyms

ABC	Anti-bullying campaign
ADHD	Attention deficit hyperactivity disorder
AFL	Australian Football League
AIM	Achievement improvement monitor
BST	Basic skills test
CPC	Child parent centre
DART	Developmental assessment resource for teachers
DECS	Department of Education and Children's Services
DEETYA	Department of Employment, Education, Training and Youth Affairs
DEST	Department of Education, Science and Training
DOTT	Duties other than teaching
EAB	Equivalent age band
ESL	English as a second language
FTE	Full-time equivalent
IEP	Individual education plans
IT	Information technology
LAP	Literacy assessment profile
LD	Learning difficulties
LOTE	Language other than English
MCG	Melbourne Cricket Ground
MTM	Mother tongue maintenance
NCP	Negotiated curriculum plan
NESB	Non-English-speaking background
NIT	Non-instructional time
RRB	Record of reading behaviours
SACSA	South Australian Curriculum Standards & Accountability
SAER	Students at educational risk
SD	Standard deviation
SES	Socio-economic status
SHIP	Students with high intellectual potential
SRC	Student Representative Council
SSABSA	Senior Secondary Assessment Board of South Australia
SSO	School Services Officer
TAFE	Technical and Further Education
TRT	Temporary relieving teacher
WALNA	Western Australian literacy and numeracy assessment

Glossary of terms

Attention deficit hyperactivity disorder – a developmental disorder involving one or more of the basic cognitive processes relating to focusing and maintaining attention, and including hyperactivity and impulsivity

Automaticity – fluent processing of information that requires little effort or attention.

Benchmarks – a set of indicators or descriptors which represent nationally agreed minimum acceptable standards for literacy and numeracy at a particular year level.

Capital – can be cashed within various fields such as the school. Capital may be cultural, social or symbolic. Cultural capital has to do with culturally based values and patterns of consumption. Social capital has to do with holding status and prestige in various fields or situations. Symbolic capital is that which is material but not recognised as such, for example dress sense and style. Symbolic capital may be a disguised form of economic capital.

Constructivism – is a philosophical perspective derived from Kant which views reality as existing mainly in the mind, constructed or interpreted in terms of one's own perceptions.

Decode – to analyse spoken or graphic symbols of a familiar language to ascertain their intended meaning.

Diagnostic teaching – the use of the results of student performance on current tasks to plan future learning activities.

Early intervention – a program designed to supplement or substitute the existing program for those very young children judged to be at risk when they begin school.

Environmental print – consists of print and other graphic symbols, in addition to books, that are found in the physical environment, such as street signs, billboards and TV commercials.

Ethnography – the study of human groups through first hand observation.

Everyday texts – are those texts that are part of people's personal and public daily lives, such as diaries, lists, manuals and greeting cards.

Explicit teaching – direct and focused teaching of specific skills, which are often broken down and clearly explained to students.

Expository text – a form of speech or writing the main purpose of which is to set forth or explain.

Fluency the freedom from word identification problems that might hinder comprehension.

Funds of knowledge – the knowledge that children bring to school from their experiences at home and from the world outside of school.

Genre – a category used to classify texts, usually by form, technique, content or purpose.

Grade norms – the median score obtained by students at a particular year level at a given time of the year.

Habitus – a view of the world, including dispositions and aspirations.

Literacy event – a communication act that represents any occasion in which a piece of writing is integral to the nature of participants' interactions and their interpretative processes.

Longitudinal research – a way of studying behaviour or development by taking repeated measures on one or more variables on the same individual or groups over an extended period.

Matthew effect – relates to the reciprocity of processes whereby for example where reading skill leads to enjoyment in reading which leads to more reading which in turn improves skill.

Metalinguistic skill – is the ability to use language to understand and talk about language as an object in itself.

Narrative text – a written or spoken text, which tells a story, either real or fictional.

Onset – that part of a syllable preceding the syllable peak or nucleus, normally the consonant preceding a vowel.

Orthography – the study of the nature and use of symbols in a writing system.

Outcome-based education – an educational program that relies on performance assessment to determine its effectiveness.

Pedagogy of reading – the study of the teaching of reading in relation to materials, methods and problems involved in learning to read and in improving reading behaviours.

Permeable curriculum – is a dynamic curriculum that draws from the knowledge, skills and interests of the children who are being taught. Home and school are worlds are viewed as having shifting and intersecting boundaries. A 'permeable' curriculum supports crossing-over between worlds.

Phoneme – a minimal sound unit of speech which, when contrasted with another phoneme, affects the meaning of a word.

Phonics – a way of teaching reading and spelling that stresses symbol-sound relationships.

Phonological awareness – Awareness of the constituent sounds of words in learning to read and spell.

Print awareness – in emergent literacy, a learner's growing recognition of the conventions and characteristics of written language.

Readers Theatre – a performance of literature as a story, play or poem.

Reading Recovery – an early intervention program developed by Marie Clay for use with children at risk in reading progress after one year of school.

Rime – a vowel and any following consonants of a syllable.

Scaffolding – the gradual withdrawing of teacher support as the learner gains confidence and autonomy in the task.

School literacies – those literacies, which are taught and valued in classrooms.

Semiotic systems – systems of signs to communicate meaning.

Social constructionism – views knowledge as constructed symbolically in the mind through social interaction with others and is heavily dependent on culture, context, custom and historical specificity.

Sight vocabulary – words that are immediately recognised as a whole and do not require word analysis for identification.

Standardised test – a test with specified tasks and procedures so those testers working in different geographic areas may make comparable measurements.

Syntactic awareness – the recognition of grammatical patterns or structures in language. A phase of metalinguistic awareness.

This glossary of terms draws heavily on *The literacy dictionary: The vocabulary of reading and writing* (1995), edited by T.L. Harris and R.E. Hodges. IRA: Newark, Delaware.

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Hill
Comber
Louden
Rivalland
Reid



This Australian study of children's literacy development traces children's progress from the year before school through to the fourth year of schooling.

It provides detailed case studies on focus children, as well as comparative data on these children in relation to a cohort of children with whom they began school.

This project was funded by the Australian Commonwealth Department of Education, Science and Training. The research was undertaken by researchers from three Australian universities – the University of South Australia, Edith Cowan University and the University of New England.