

**YOU04294**

***Growing into Literacy: Emergent Literacy Understandings Prior to School***  
AARE Conference Melbourne, 2004

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**Abstract:** Research has shown that young children begin to develop understandings about literacy in the prior-to-school period. Yet in Australia recognition of the possibilities for fostering early literacy within early childhood settings has been slow to gain approval. The study reported in this paper investigated young children's literacy understandings during preschool, two months before commencing school. One hundred and fourteen young children from three preschools in Brisbane, Australia participated in the study. Each child took part in a forty-five minute one-on-one interaction with an adult where a range of literacy-related tasks and assessment strategies were used. Young children's alphabetic knowledge, word recognition and concepts about print were measured. Results were analysed to determine how aspects of emergent literacy in preschool relate to one another and to children's age and gender. Results showed that preschool children developed particular understandings about literacy in the prior-to-school period. Implications for home literacy practices and designing early literacy programs are drawn.

For more than a decade early literacy development has been the focus of a number of research studies (Badian, 1994; Britto, 2001; Dickinson & Tabors, 1991; Hill, Comber, Loudon, Rivalland & Reid, 1998; Juel, 1988; Meiers & Forster, 1999; Weinberger, 1996). A number of longitudinal studies have examined children's various literacy understandings in preschool or early Year 1 and the relationship of these with later measures of literacy achievement (Blatchford, Burke, Farquar, Plewis & Tizard, 1987; Burgess, Hecht & Lonigan 2002; Crone & Whitehurst, 1999; Evans, Shaw & Bell 2000; Raban, Ure & Smith, 1999). Despite results from these studies debates regarding the need for the inclusion of literacy in the prior to school years and how beginning reading instruction in school is best accomplished have arisen (Teale, 1995). Opinions and beliefs of early childhood educators lie at the heart of the debate and these vary across a continuum of opinion. In 1998, a joint position statement, *Learning to Read and Write: Developmentally Appropriate Practices for Young Children* was published by the International Reading Association and National Association for the Education of Young Children. The statement addressed the needs of children from birth to 8 age years and specified appropriate practices for teachers while addressing the notion that "literacy does not just emerge naturally" (IRA & NAEYC, 1998, p. 194).

Theories of beginning reading have evolved over time and yet we continually look to the past seeking directions for the future. Teale (1995) conceptualizes the history of reading theories into two phases, the preschool period where children spend their lives at home and or in early childhood education settings, and the period where formal schooling begins. By examining past theories we are better placed to understand current beliefs and practices in early childhood settings. With a firm knowledge of the past we are then able to examine ways of modifying practice if it does not align with current research findings.

One reading theory that dominated education from the 1920s through to 1980s was the Maturational perspective. A widely held belief was that "young children needed time to mature and to develop and to develop knowledge of the self before beginning formal

reading instruction” (Crawford, 1995, p. 72). The notion of ‘reading readiness’ emerged and beliefs relating to delaying the teaching of reading until a child reached a certain level of cognitive maturity became popular (Morphett & Washburne, 1931). Tests were developed to provide information about children’s readiness for school, a practice that continued well into the 1950s.

The Maturational era was followed by the Developmental era. Those who supported this view still believed children must ‘be ready’ before they could learn to read however, they supported the notion of nurture as well as nature believing that experiences could influence children’s literacy learning (Crawford, 1995). Developmentalists espoused four key assumptions: All children are capable of learning to read and write, basic skills are essential, all disadvantaged children lack skills and experience, and finally steps must be taken to help disadvantaged children develop (Becker, 1977).

Nativist and Psycholinguistic perspectives followed during the late 1950s to the 1980s. Chomsky, (1957) proposed a Nativist theory that humans come into the world with an innate ability to acquire the language of the community in which they are born. Researchers who investigated Chomsky’s perspective included Goodman and Goodman, (1979), Harste, Woodward & Burke (1984), and Smith (1971 & 1973). Their research led to the evolution of a Psycholinguistic view where it was proposed readers were active constructors of meaning. An emphasis was placed on using meaningful texts rather than those using repetition of high-frequency words. Whole Language philosophy of teaching evolved during this era and became popular, yet controversy arose when a seemingly over-reliance on gaining meaning from texts appeared to supercede the need for explicit instruction of phonological awareness (Goodman, 1986).

During the same time period an Emergent perspective of literacy development arose as Clay, a researcher from New Zealand found that children travel different pathways to literacy and that understandings develop prior to commencing school (Clay, 1966, 1991 & 1998). The relationship of learning to read and write was acknowledged by Teale and Sulzby (1986) who agreed with Clay and disputed the notion of ‘readiness’ for learning to be literate. Teale and Sulzby supported the view that literacy development begins in the prior-to-school period and takes place in real-life settings while engaging in everyday activities with others. Defining emergent literacy remains problematic as the term covers a broad spectrum of epistemological and methodological stances and is used inconsistently. “... the term emergent literacy can be seen as implying a broad theoretical stance about literacy learning (developmental and constructivist), an age group (birth to age 5-6 years), and a focus on informal learning in holistic activities at home, preschool or kindergarten” (Yaden, Rowe, & MacGillivray, 2000, p. 426). Emergent literacy theorists have drawn on Piagetian developmental theory and also on Vygotsky’s theory of language development as a social process (Phillips, 1981; Vygotsky, 1978). Those who support emergent literacy theory acknowledge that children develop awareness of print and explicit knowledge and understanding about written language prior to starting school (Labbo & Teale, 1997).

Researchers have taken up the challenge of investigating literacy development in the prior-to-school period. Studies have been done in homes and in educational settings during the early years and results provide rich insights into the range of influences on

early literacy development (Neumann & Dickinson, 2001). Cultural, home, socio-economic and innate influences as well as children's emerging skills and abilities have all been studied.

Results from studies within homes reveal families engage in everyday language and literacy-related practices (Burgess, Hecht, & Lonigan, 2002; Evans, 1998) and provide models for young children as they "become expert members of the social and cultural groups to which the family belongs" (McNaughton, 1995, p. 17). Family practices include demonstrations of ways of using spoken and written language. Young children begin to learn about the purposes and practices for using language, and this learning has an effect on literacy development in the future (Britto, 2001; Dickinson & Tabors, 2001; McCarthey, 2000; Snow, Tabors, & Dickinson, 2001; Wells, 1985). Taylor (1983), who conducted an ethnographic study of white middle-class children who were successful readers and writers, described three conditions that assist young children to understand the role of print. These conditions include immersing children in print at home, exploring print during play and developing an understanding of how print is used for everyday purposes. Heath (1983) who conducted ethnographic research in three communities found that each community used language and literacy-related practices differently. She proposed that children from particular communities, who may not have many opportunities to prepare for school, may find school language interactions a challenge. In later research, Heath found that middle-class mainstream families "prepare their young children for the special ways of using language that the school rewards" (Heath, 1991, p. 19) and this often provides the groundwork for early literacy success.

Predictive longitudinal studies in which measures of children's literacy achievements in the early years of schooling have been mapped from preschool and into the early years of schooling, provide further insights for literacy education. These studies have been both multivariate and uni-dimensional. Researchers who have conducted multivariate studies have measured children's literacy understandings in preschool and then examined relationships with later literacy achievement (Burgess, Hecht & Lonigan, 2002; Hill, Comber, Loudon, Rivalland & Reid, 1998; Storch & Whitehurst, 2002). Results from these studies firstly draw implications relating to the importance of the largely untapped potential of children's homes as a resource for enhancing children's literacy development (Burgess et al, 2002). Second, a close relationship has been shown with oral language skills in preschool and literacy achievement in Years 1 and 2 (Storch et al, 2002). Third, some 'accepted beliefs' relating to the acquisition of literacy have not been demonstrated at all times (Hill et al 1998). Results from this study showed no significance difference due to age or gender when comparing early literacy performance.

Despite a number of studies being conducted the validity of assessing children's developing literacy skills prior-to-school is not universally accepted by educators. The debate not only involves contrasting views of early literacy assessment, but some present the view that attempts to measure literacy skills in the prior-to-school period should be abandoned altogether (Johnston & Rogers, 2001; Salinger, 2001; Valencia, 1997). Reasons given in support of abandoning the practice are that assessment routines are first interpretive, discursive practices that are influenced by values, beliefs and language (Gee, 1996) and that ill-informed labelling may result in undesirable long-term consequences for some children (Pearson, De Stefano, & Garcia, 1998; Shepard, 1994; Shepard &

Smith, 1989; Valencia, 1997). Not all educators agree ill-informed labelling will occur and argue for effective and appropriate assessment that will enable teachers to make informed decisions concerning instructional practice and move the “child forward toward conventional reading and writing” (McGee & Richels, 2003, p. 32).

Correlational studies also have been conducted. Results from these studies cannot be viewed as showing cause or explaining levels of reading success or difficulties. When factors correlate with later reading achievement they are deemed associated conditions that may relate to possible reading problems. Exceptional cases where correlations do not occur have been reported in many studies (Scarborough, 2001). Correlations reported in studies from one year in the primary school to the next are typically in the (.6 to .8) range. These results are strong, but not perfect. Correlations of kindergarten predictors with later reading scores are typically not as strong and are within the (.4 to .6) range (Snow, Burns & Griffin, 1998).

Despite results from numerous studies, early childhood teachers in Australia have been slow to acknowledge research findings that children begin to develop literacy understandings before they commence school. This lack of acknowledgement has been shown by reluctance to include aspects of literacy in their programs. In a study with early childhood educators and preschool children conducted in Victoria, Australia by Raban, Ure & Smith (1999), it was found that preschool professionals were both reluctant to participate and somewhat uncertain of the role of literacy in their programs. In a second study by Makin, Hayden & Diaz in New South Wales, Australia where literacy practices in early childhood classrooms were mapped, it was found that “support for early literacy development ... generally was not strong” (2000, p. 370).

This study of young children’s literacy understandings in preschool was conducted to investigate the question: *What aspects of literacy knowledge and understanding do students develop in the prior-to-school period?* While a number of studies had investigated various aspects of literacy this study sought to delineate patterns of development in the prior-to-school period. The study, conducted in Brisbane, Australia with 114 young children commenced in November of the preschool year just two months before the children started school.

## THE STUDY

This study was drawn from a much larger longitudinal study of young children’s literacy development (Young, 2003b). Preschool teachers were interviewed within the larger study and information sought about their role in the literacy development of young children. A full analysis of the interview data is not reported in this paper. Broad findings from interviews with five preschool teachers revealed they were aware of the importance of immersing children in language-based activities and in some cases print. Teachers spoke broadly about reading to the children, providing opportunities for them to see print and for them to use writing implements. No teacher spoke of interacting explicitly with children to enhance understandings about print. Also within the larger study parents completed a Parent Survey that included information about family members and structures, socio economic and cultural background. Some of these data are reported in this paper to define the qualities and attributes of the sample of children.

Children's understandings of alphabetic knowledge, word recognition and concepts about print were measured during a 45 minute one-on-one interaction with an adult. Phonological awareness measures have been reported elsewhere (Young, 2003a). A range of literacy-related activities were used and these were child-friendly experiences that included sharing stories, identifying labels on food products and naming letters and words.

### **Sample**

One hundred and fourteen preschool children were drawn from three Preschools in different geographical locations in Brisbane, Australia. Schools were chosen for two reasons. First, they catered for children's education from Preschool to Year 7 and second, they catered for a diverse range of families.

### **Children's Measures of Literacy Knowledge and Understanding**

Alphabetic knowledge was measured using Clay's letter identification strategy (Clay, 1979a) where children identify letter names, letter sounds and provide a word that starts with the letter for all lower and upper case letters. Two additional letters 'a' and 'g' also are included in the indicated font as this style is commonly used in children's texts.

Word recognition was measured using an Environmental print task and reading words from the Canberra Word Test (Clough, McIntyre and Cowey, 1990). Thirteen food products were used for the Environmental print task. Children were asked if they could recognise the product and its name in four different ways. The products used were milk, jam, honey, jelly crystals, juice, milk additive (Milo), sandwich spread (peanut butter), breakfast cereal (Rice Bubbles), snack foods (Twisties, Freddo and Milky Way), savoury biscuits (Jatz) and tinned food (spaghetti). Four tasks were used to gauge children's ability to recognise the product and its name. Initial tasks, 1 and 2, were highly contextualized and the actual product was used. Tasks 3 and 4 became more decontextualised as a cut-out label and name on a word card were used. Task 1 involved presenting the whole product to each child. If the product was recognised the child was asked to point to its name as Task 2. Products used in Tasks 1 and 2 were then removed from sight prior to commencing Task 3. Cut-out labels for each product were shown to the child who selected and named labels he/she knew. All cut-out labels were then removed from sight prior to commencing Task 4. For this task product names were printed in a plain black font on white cards. Children were asked to identify the product name on these cards.

Fifteen words from List B of the Canberra Word Test (Clough, McIntyre and Cowey, 1990) also were used to measure children's word recognition. The words typed in a large black font were placed in a column on a card. During the task the words were covered and revealed one at a time. Children were asked to read as many of the fifteen words as possible. The words in List B were: *dog, a, we, can, went, Mum, are, of, will, up, was, that, she, not, here.*

Clay's Concepts About Print Test (CAP) (Clay, 1979a) was used to gauge children's understandings of book awareness/handling skills and print directionality, as well as concepts of letters, words and punctuation. This test of 24 items is commonly used and

involves the use of a children’s text that contains deliberate staged errors. The test is conducted with an adult sharing a text with individual children who are asked to identify various types of errors. Version *Sand* (Clay, 1979b) was used in this study. Errors include one illustration that is upside down, one page where print is upside down, one page where lines of print are in reverse order and two pages where letters within eight words are in mixed order.

## RESULTS

Information relating to family background, age and gender was provided by parents in a survey completed at the beginning of the study.

Children’s ages at the time the study began ranged from 4 years 11months to 6 years 4 months with a mean age of 5 years 7 months. No significant mean age difference for gender was found, with a mean age for boys of 5 years 7 months and a mean age for girls of 5 years 6 months. For the purposes of analysis, data for age were organized into three broad categories the younger group (4 years 11 months to 5 years 4 months), middle age group (5 years 5 months to 5 years 10 months) and the older group (5 years 11 months to 6 years 4 months). A graph depicting age in the three categories for boys and girls is shown in Figure 1.

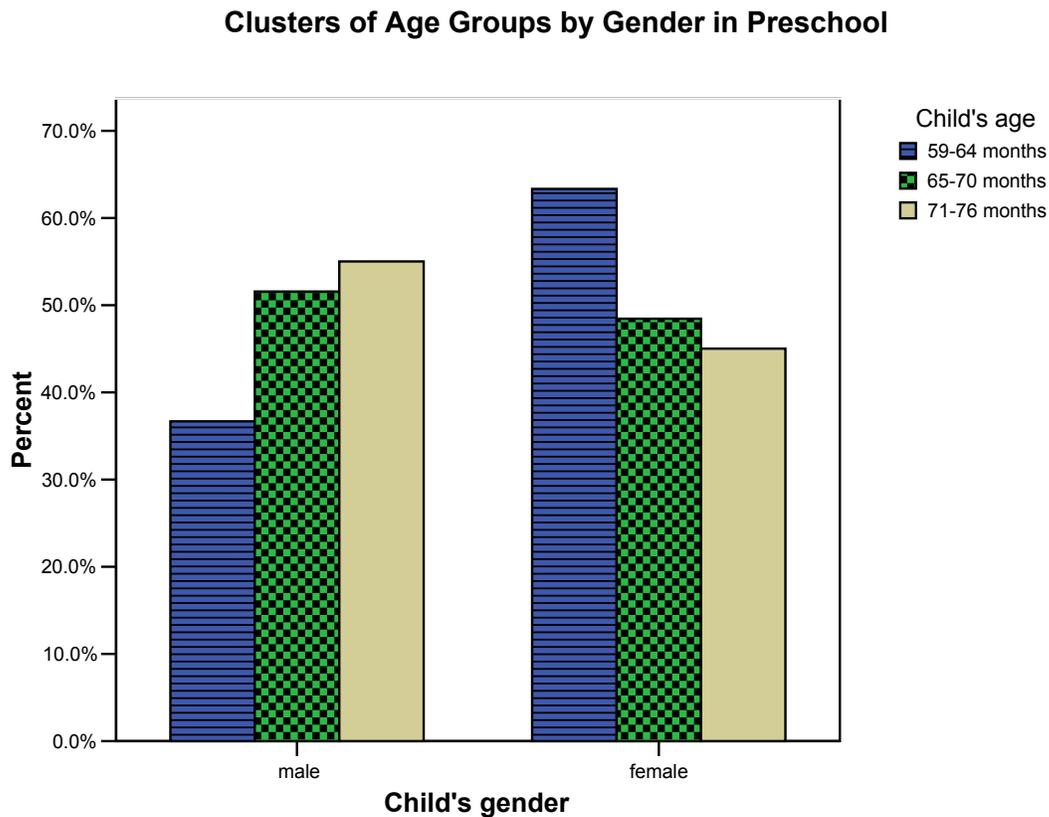


Figure 1: Distribution of preschool children across three age-group ranges

Family background information relating to the highest level of education and occupation for both parents/guardians also was provided through the parent survey. Mothers' and Fathers' occupations are shown in Figures 2 and 3.

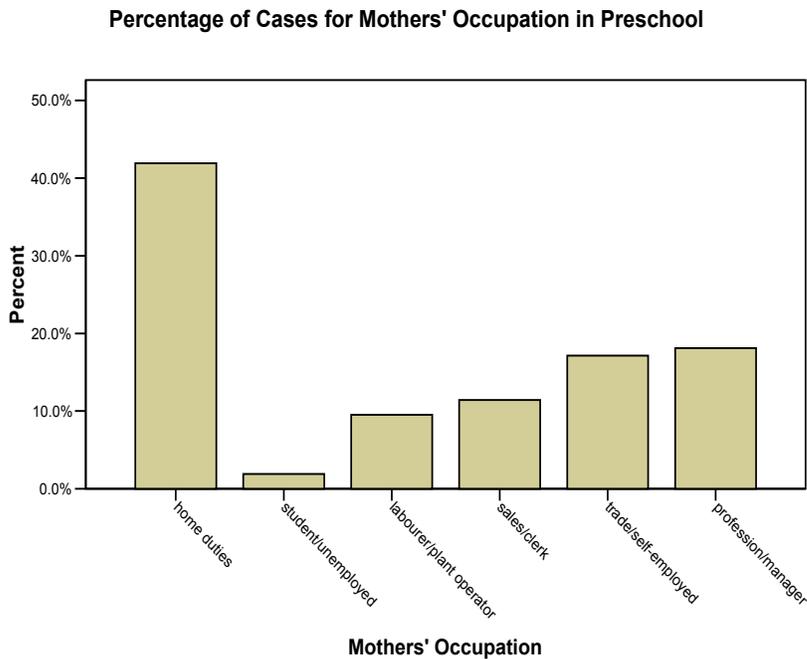


Figure 2. Mothers' occupation level while children in preschool

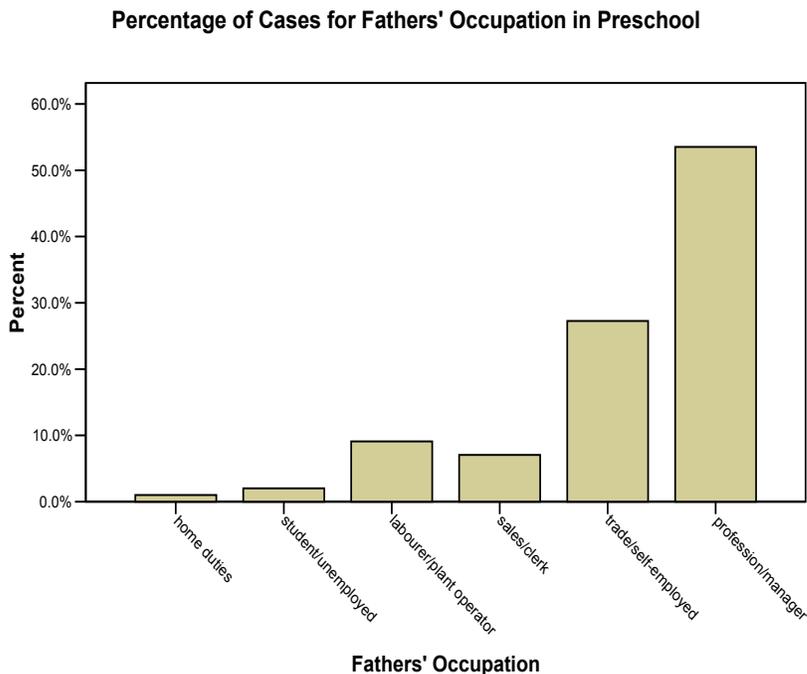


Figure 3. Fathers' occupation while children in preschool

Analysis of variance revealed no significant difference when comparing mothers and fathers occupation ( $p = .4$ ).

Categories for the highest level of education were Year 10/11; Year 12; Technical and Further Education (TAFE) and University. The highest level of education for parents is shown in Figures 3 and 4.

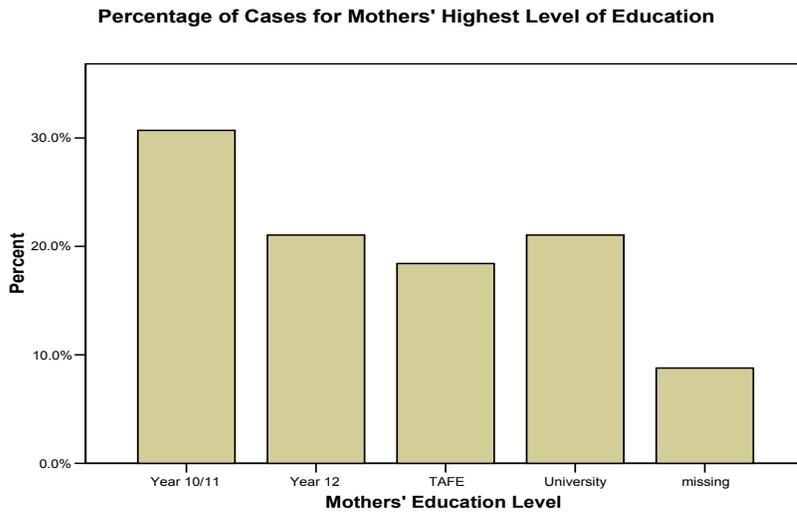


Figure 4. Mothers highest level of education while children in preschool

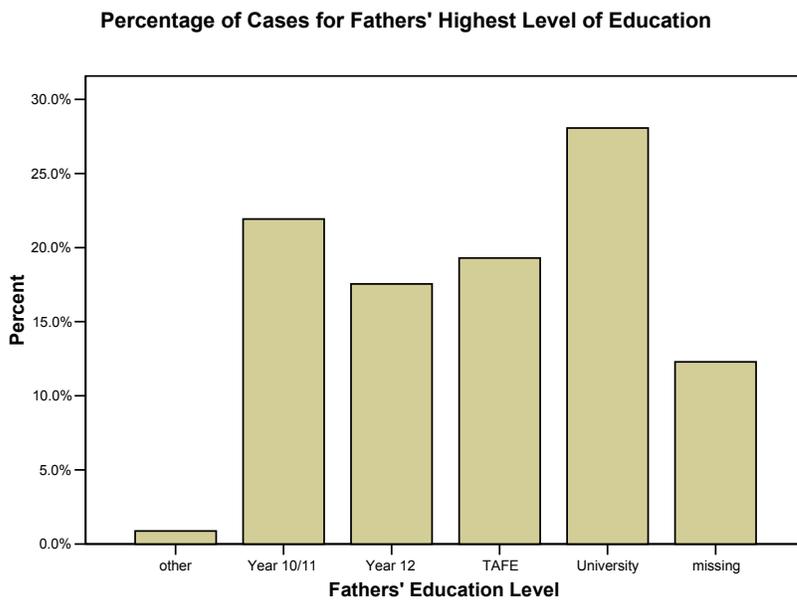


Figure 5. Fathers highest level of education while children in preschool

A highly significant difference ( $p = < .01$ ) was found when comparing mothers and fathers highest level of educational attainment. Fathers were more highly qualified with approximately 28% having university qualifications compared to 21% for mothers. When comparing the lowest level of educational attainment fathers had fewer within the Year10/11 category (22%) compared to mothers who had 30%. in this category.

From an examination of the occupation and highest level of education of parents, the sample for this study is mixed and could be classified broadly as lower middle to middle class. While the researcher chose the schools partly because it was believed they catered for a diverse range of families, this was not the case when the sample was examined more closely.

### Alphabetic Knowledge

Fifty-four letters were presented to the children, 26 in upper case and 28 in lower case. Descriptive statistics shown for the children’s performances on all three tasks are in Table 1.

Table 1

#### *Preschool Children’s Knowledge of Letter Names, Sounds and Words Beginning with Each Letter*

Task	N	Mean	SD
Letter names	114	26.5	17.8
Letter sounds	114	7.9	13.4
Words beginning with the specified letters	114	13.0	13.8

Multivariate analyses of variance were conducted to examine effects of age and gender on letter knowledge and identification. No significant effect was shown for age and results for the three tasks were: Task 1 ( $p = .84$ ); Task 2 ( $p = .86$ ); Task 3 ( $p = .35$ ). Similarly, no significant difference was shown for gender: Task 1( $p = .34$ ); Task 2 ( $p = .90$ ) and Task 3 ( $p = .81$ ).

Results for knowing letter names (mean = 26.5) was surprisingly high for preschool children who were not receiving explicit literacy-related instruction in their educational settings. These results indicate they must have gained this knowledge about the alphabet in the home setting through home literacy practices and experiences with print.

### Environmental Print

Results for Environmental print using selected food products are shown in Table 2.

Table 2

#### *Preschool Children’s Knowledge of Environmental Print using Selected Food Products*

Task	N	Mean	SD
Recognition of selected food products (Task 1)	114	9.05	2.61
Recognition of product names on the selected products (Task 2)	114	7.35	3.18
Recognition of cut-out labels for the selected	114	5.09	3.55

products (Task 3)			
Recognition of selected product names on cards (Task 4)	114	2.17	3.56

The simplest most contextualised tasks (1 and 2) were conducted first and the mean scores for these tasks were higher than for the more decontextualised tasks (3 and 4). While young children may recognise common food products, they were not fully aware of the print on these products.

A cumulative score for all four tasks (52) revealed a mean score of 23.66 and standard deviation of 12.73. Multivariate analysis was conducted for age, but no significant effect was found ( $p = .68$ ). Similarly, no significant effect occurred for gender ( $p = .92$ ). Thus, neither age nor gender made an observable difference in relation to recognition of selected food products and their labels in preschool in this study.

### Word Recognition

Children were asked to read List B (15 words) from the Canberra Word Test (Clough, McIntyre and Cowey, 1990). Each word was uncovered by an adult one at a time. All children attempted this task, although not all were able to read words. The score for Canberra Word Test is shown in Table 3.

Table 3

#### *Score for the Canberra Word Test in Preschool*

Task	N	Mean	SD
Reading words from Canberra Word Test	114	1.27	2.81

Results revealed the difficulties young children experienced when reading words in isolation prior to commencing school. The majority (60.5%) could not read any words. However, results can be examined for those children who were able to read one or more words. Results showed that 45 children from the total sample did so. The majority of this sub-group (24) could read one word from the list. Of the remaining 21 children, 12 read two, three or four words; three read five, six or seven words; and six read between 10 and 14 words.

### Concepts About Print (CAP)

Results for Concepts about Print Test (CAP) (Clay, 1979a) revealed distinct patterns of understandings in the prior-to-school period. Total results for all children are shown in Table 4

Table 4

#### *Performances for Concepts About Print Test(CAP) in Preschool*

Task	N	Mean	SD
Concepts About Print Test (Score 24)	114	11.05	4.38

Multivariate analysis of variance was conducted to examine age and gender effects. Results for age ( $p = .26$ ) did not attain statistical significance. However, results showed a statistically significant effect for gender [ $F(1,112) = 5.09, p = .03$ ] with girls achieving a higher overall mean score than the boys (girls = 11.93; boys = 10.10). A closer look at these results revealed girls scored significantly higher on Items 2, 4, 7, 9, 11, and 13.

Test Item 2: Knowing print contains a message;

Test Item 4: Knowing to read from left to right;

Test Item 7: Identifying the first part of the story and the last part;

Test Item 9: Responding to inverted print and knowing left to right direction;

Test Item 11: Knowing the left page is read before the right page;

Test Item 13: Identifying letters that are out of order.

Except for Item 2, all of these items relate to print directionality.

Overall the results showed preschool children were developing their knowledge and understanding about print. On the CAP test, four test items were answered correctly by more than 80% of the total sample. These were:

Test Item 1: *'Show me the front of this book.'*

Test Item 3: *'Show me where to start (i.e. reading).'*

Test Item 4: *'Which way do I go?'*

Test Item 21: *'Now show me two letters.'*

These results demonstrated that the majority of preschool children in this study had well-developed knowledge of how to handle books, and they were aware of the directionality of print. They also demonstrated an understanding of the concept of a letter.

The most challenging tasks for preschool children were scored correctly by fewer than 20% in the sample. These tasks were:

Test Item 14: *'What's wrong with the writing on this page'*. (re-ordering letters within a word);

Test Item 15: *'What's this for?'* (Pointing to a question mark);

Test Item 17: *'What's this for?'* (Pointing to a comma);

Test Item 18: *'What's this for?'* (Pointing to quotation marks);

Test Item 20: *'Show me the word 'was''*;

Test Item 24: *'Show me a capital letter'*.

Results for these items showed that preschool children in this study were not familiar with the function of all punctuation marks and did not have well developed word recognition skills. They also appeared to be unfamiliar with the term 'capital letter.' Perhaps these findings reflect the purposes adults have when they share texts with young children. Main purposes are more likely to be gaining enjoyment from the story and illustrations and understanding an author's meaning. Most parents and early childhood teachers would not set their main objective as familiarising preschool children with punctuation or metalinguistic terms such as the 'capital letter'.

## DISCUSSION AND CONCLUSIONS

Results from this study of lower middle to middle class children revealed preschool children who have experienced some implicit but little explicit literacy-related instruction in the preschool setting displayed a range of literacy-related understandings. Analyses of results revealed some aspects of preschool children's knowledge appeared to be well-established, some were partially understood and some were not understood at all.

### *Well-established features:*

- Recognising food products;
- Recognising labels on food products;
- Recognising letter shapes and configuration;
- Knowing letter names;
- Handling books;
- Knowing directionality of print;

### *Partially-established features:*

- Recognising labels when separated from products;
- Knowing words starting with particular letters;
- Demonstrating knowledge of words that commence with particular sounds.

### *Little current knowledge:*

- Recognising product names printed on cards;
- Knowing letter sounds;
- Knowing the function of punctuation marks;
- Knowing letter patterns in common words;
- Knowing the term 'capital letter';
- Reading words from lists or texts.

Results in this study were that children in preschool demonstrated a range of literacy-related skills and abilities even without explicit opportunities being provided in educational settings prior-to-school. Furthermore, results highlight the important role parents play at home in fostering early literacy understandings. Educators in the years prior to formal schooling also may learn from this study.

It is essential that early childhood teachers become more aware of the importance of implicit as well as explicit prior-to-school literacy experiences and the relationship these have with subsequent literacy achievement. Teaching practices in the prior-to-school year could include planned and incidental experiences with a range of texts and literacy-related resources where young children are actively and purposefully engaged. Many opportunities could be provided for focused discussions with adults during play where literacy-related artifacts are available (Antonacci & O'Callaghan, 2004; McGee & Richels, 2003; Venn & Jahn, 2003). Children could role play reading and writing and include these practices in their play. A range of resources could be provided to enable this form of play to occur. Print could be used in early childhood centres to demonstrate ways

people use texts in their everyday lives to range for different purposes. It is recommended that teachers become 'model language users' and frequently demonstrate ways of using and interacting with everyday, literary and information texts.

There is now an abundance of research that demonstrates how young children in the prior-to-school period develop a range of literacy-related skills as they participate in home and early education settings (Burgess, Hecht, & Lonigan, 2002; Dickinson & Tabors, 1991; Hill, Comber, Loudon, Rivalland & Reid, 1998). However, there is still much to be learnt in relation to understanding best practices to use with young children to enhance their understandings without applying undue pressure upon them. In Australia there is a need to extend upon the work of Raban, Ure & Smith, (1999) and Makin, Hayden & Diaz, (2000) to ensure early childhood teachers gain an understanding of how young children learn to be literate and the vital role they can play in the prior-to-school period. There is a need to educate teachers about appropriate learning environments, teaching practices and suitable resources, so that literacy-related experiences may be suitably embedded in children's play. Opportunities also are needed for explicit and focused literacy-related interactions with the teacher. These opportunities in early years educational settings should ensure young children have the best opportunity of learning to be literate without undue stress or difficulty when they enter primary school.

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