



Australian Scholarship Group Early Intervention Research Program

Childhood literacy and early intervention Paper

by Dr John Munro, ASG Early Intervention Research Program Principal Investigator

Learning to be literate is a key capacity needed by citizens in a 21st Century culture. Cultures increasingly use the written word to communicate. Being able to comprehend the intention of a written message is important for all areas of life.

What is literacy? It is the knowledge and skills individuals have for understanding the written message in the way intended by the writer of the text. It is what readers know about how to convert the written message to knowledge they can use. It doesn't only refer to the written words in the text, but may include understanding how accompanying pictorial or numerical data relate to the message and how the context in which they read the message influence how they understand it.

Literacy knowledge is learnt by integrating what individuals know in other areas. A range of research studies have shown that it grows out of the ability of young children to use language, to recognise and use sound patterns, to think about ideas in various ways, to use visual symbols and to retain knowledge in memory, both for a brief period to learn new ideas and also to store the knowledge more long term.

Our literacy knowledge is what we know about how texts are written. We have symbols that stand for single ideas. We know, for example, the letters that make up the written word 'cat', even though these symbols don't look anything like the pet that they represent. We can distinguish this set of symbols from 'cast', 'cats' and 'acts'.

Not only do we symbolise individual concepts such as 'cats' using words. Research also shows that we learn to symbolise sentences and also larger text that comprises sets of sentences. We show this in what we expect from a text. Suppose you have just purchased a new DVD player and have opened the manual that tells you how to install it. You would probably be surprised if it began with "Once upon a time there was a spoken message ...".

It is these types of knowledge that children learn as they develop, continue to read and write. They learn gradually the features and characteristics of increasingly complex texts, how to understand and to produce them and how to learn from them. Literacy is the main channel through which students learn and enhance what they know. This indicates the importance of this knowledge.

Not all children learn literacy knowledge with equal facility. Some children have substantial difficulty learning it. Not surprisingly, given the complexity of this knowledge, their difficulty can be due to a range of causes. A research study we conducted from 2001-2003 involving approximately 550 grade 1 students showed that those students who had literacy difficulties were less able than their successful peers in abilities such as detecting sound patterns in words, recalling visual symbols, handling patterns in clusters of letters, naming symbols rapidly, vocabulary and other oral language knowledge.

They also showed quite different patterns in how they organised their knowledge. Unlike the successful readers, the less able readers (1) showed a difference between their ability to comprehend and express language (2) had difficulty retaining verbatim what they heard and (3) automatising various areas of their knowledge, for example, their ability to manipulate sound patterns, to store letter clusters and to link letter and sound clusters.

The research shows why it is insufficient to teach phonics to many of these students. Before they can learn phonics, they need to learn the necessary phonological or sound knowledge, how to retain what they hear, how to talk about what they know and how to store in memory and name alphanumeric symbols. It showed clearly how phonic ability emerges from these areas of knowledge as an intermediate phase in learning to read. Trying to teach phonics to students who lack sufficient knowledge in these areas is doomed to be unsuccessful.

The study also showed that different areas of knowledge deficiency were linked with different reading error patterns. While on a word reading or comprehension test different children may all answered the same number of tasks correctly, they differed from each other in how they did them. To help these children learn to read, you need to understand the processes that are causing the difficulty in the first place.

In our research we also compared alternative interventions that matched some of the major areas of knowledge difficulty. Some of the students made gains of more than one year in reading ability, while others made smaller gains. Again, the extent of their development across the seven areas of knowledge made a difference to their reading gains.

The research shows clearly that if we want to help all students to learn to be literate, we need to take account of all of the relevant areas of knowledge. If we don't, we will be targeting only some of those causes. As well, it shows clearly that phonics knowledge is not a cause of literacy difficulties but an intermediate stage of knowledge that can be due to at least seven causes. Different children learn it in different ways. Simply attempting to teach it is like trying to build a house without putting in the necessary sound, symbol or meaning foundations.

The research has been used very successfully to assist schools to identify the particular literacy learning needs of young children and to teach them according to their needs. A web site on which we assembled many of the materials from the study won an international prize in 2004 as one of the best 10 educational sites in the world. The study informs the current debate about literacy learning by young students. It also informs current graduate teaching programs provided by the Melbourne Graduate School of Education.

The research has also identified directions for future research. Successful literacy learning involves integrating the areas of knowledge identified by our earlier research (phonological, semantic, orthographic and psycholinguistic) and being able to move between them seamlessly. Future research will examine how this integration and automaticity are achieved. Readers learn to develop this integration and automaticity for increasingly complex text and to learn from the text they read. Future research will also examine how they do this, particularly for on-line and electronic text contexts.

Australian Scholarships Group Early Intervention Research Program, conducted under the auspices of the Melbourne Graduate School of Education at the University of Melbourne and housed at the University's Early Learning Centre in Abbotsford, Melbourne, provides a longitudinal investigation of early learning and literacy development from a multi-disciplinary perspective. The establishment of the program confirms the Melbourne Graduate School of Education's focus on delivering high-impact, best practice research.

For more information about the Australian Scholarships Group Early Intervention Research Program:

- Visit ASG's website: www.asg.com.au/asgeirp for a comprehensive collection of information about the Program – updates will be posted regularly.
 - Contact Associate Professor Margaret Brown, Program Director, Melbourne Graduate School of Education, University of Melbourne – Phone: +61 3 8344 0987 Email: pmbrown@unimelb.edu.au Web: www.edfac.unimelb.edu.au
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