In 2007, staff from the Special Education Resource Unit (SERU) attended the Australian Association of Special Education national conference in Sydney. One of the keynote speakers at the conference, Edward Kame’enui, Professor of Education at the University of Oregon and the first Commissioner of the National Centre for Special Education research, spoke about the urgency of the need to address the issues of illiteracy in our society. Reading difficulties can be persistent.

Studies show that identification of reading difficulties and intervention in the early years of school is far more likely to be successful than when the reading difficulties are identified later in schooling or in adulthood. It is critical that intervention occurs as early as possible.

Teaching reading is a complex process that requires a high level of expertise and decisions based on evidence. To ensure that teachers could be confident that they were teaching reading efficiently and effectively, the National Reading Panel in the USA used available research to identify the areas for teaching reading that would most benefit the children with reading difficulties. Research indicates that proficiency in:

- phonemic awareness
- alphabetic principle
- fluency
- comprehension

are good predictors of success in learning to read. Kamene’enui calls these predictors, the 5 Big Ideas in Beginning Reading. The guiding principles of the 5 Big Ideas in Beginning Reading are early identification of difficulties and intervention, explicit and thorough teaching and careful monitoring of progress.

This issue of SERUpdate has focussed on the 5 Big Ideas in Beginning Reading and each article describes the particular skill, its importance for learning to read and then some practical strategies for teaching the particular skill. Most of the articles are written by DECS personnel, but included, with their permission, are two articles written by Elizabeth Love and Sue Reilly, who are well known Australian speech pathologists with particular expertise in literacy teaching.

The following definitions of each of the Big Ideas come from the website sponsored by the University of Oregon, Big Ideas in Beginning Reading.

1. Phonemic Awareness: The ability to hear and manipulate sounds in words.
2. Alphabetic Principle: The ability to associate sounds with letters and use these sounds to form words.
3. Fluency with Text: The effortless, automatic ability to read words in connected text.
4. Vocabulary: The ability to understand (receptive) and use (expressive) words to acquire and convey meaning.
5. **Comprehension:** The complex cognitive process involving the intentional interaction between reader and text to convey meaning.

**References**

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**PHONOLOGICAL AWARENESS—PREPARING FOR LITERACY**

**Note:** This article is adapted from Newsletters 1 & 2 originally distributed in Nov. 2001 & Feb. 2002.

**PHONOLOGICAL AWARENESS – WHAT IS IT?**
Phonological Awareness is the ability to consciously reflect on or ‘tune into’ the sound (phonological) system of our language. Phonological awareness is different from the following: hearing or acuity, being able to say or articulate sounds, auditory discrimination of words and phonics.

Phonological Awareness consists of many of the skills that are related to early reading development and others that appear to develop as a consequence of learning to read. That is, there is a ‘two way’ relationship between Phonological Awareness and learning to read.

At a general level **Phonological Awareness** involves an awareness that words can –
- be broken up into beats or syllables (hospital –ai)
- rhyme (can, fan, man)

At the sound (phoneme) level Phonological Awareness involves awareness that words can –
- start with the same sound (never naughty)
- be segmented into the first sound or sounds (onsets) and the rime pattern (sand & stand can be segmented into s-and, st-and)
- be formed by blending separate sounds together (f-i-sh makes fish)
- be segmented into separate sounds (s-l-i-p)
- be changed or manipulated by removing, adding or reordering sounds within the word to make a different word (trip without the r says tip)

Phonological Awareness tasks vary in difficulty even when it appears they are similar tasks. For example, it is usually easier to detect that two words rhyme than to produce a word that rhymes with a given word. Some tasks require greater memory and thought than a simple ‘yes’ or ‘no’ answer – e.g. saying which word is the ‘odd one out’ in a series of 4 words (3 of which begin with the same sound), is more difficult than asking for a judgement about whether or not two words begin with the same sound.

**THE IMPORTANCE OF PHONOLOGICAL AWARENESS**
There is much research that shows that Phonological Awareness is an important component of early reading success. A child’s level of phonological awareness prior to school is one of the best predictors of their later reading development. Good Phonological Awareness enables children to more readily develop an understanding of the alphabetic nature of English – i.e. that there is a direct relationship between the sound of the spoken words and the letters that represent them in written language.
Phonological Awareness—Preparing for Literacy

Studies have also shown that training in Phonological Awareness has an impact on reading acquisition. This is particularly so when Phonological Awareness instruction is combined with letters. Much can be done at preschool to provide children with opportunities for developing sound awareness and to prepare them for literacy instruction. However, whilst Phonological Awareness is seen by many to be an essential ingredient of early reading instruction, it is not sufficient on its own to enable children to read.

This view is supported by the National Reading Panel which in 2000 released its research-based findings in 2 reports about what is best practice in “Teaching Children to Read”. In summary the 5 key areas to be included in early reading instruction are – phonological awareness, phonics, vocabulary, comprehension and fluency.

The Development of Phonological Awareness

Phonological Awareness can appear to develop ‘naturally’ in some children through experience with oral language games such as rhyme and exposure to written language. For others however, phonological awareness requires explicit and intense teaching. It must be remembered that Phonological Awareness is complex and requires abstract thinking. It is one of a number of what are called, “metalinguistic” tasks. Language, whether spoken or written, usually focuses on the exchange of meaning, while “meta” language requires us to analyse language, and then think and talk about how it is put together. It is quite understandable, therefore that young children arrive at preschool or school with a wide variety of levels of phonological awareness ability and early experiences with literacy.

Difficulty with Phonological Awareness & Its Implications

When learning to read and spell the young student must understand that words are made up of sounds that can be sequenced, segmented, blended and rearranged. If they do not, they are unlikely to learn the mappings of letter-sound patterns and will find it difficult to tackle the reading or spelling of unfamiliar words. Phonological Awareness is one of the key contributors to the development of automatic word recognition. Repeated matchings of correct sound and letter patterns help to build up the young reader’s reading vocabulary or lexicon. This in turn leads to automatic word recognition and reading mastery. Lack of automaticity will prevent students from becoming independent readers and will impact on their reading comprehension.

Therefore, activities that link phonological awareness and letter/orthographic knowledge in a balanced reading program should be part of all good early literacy teaching.

A Broader View

In addition to performing poorly on Phonological Awareness tasks, some students have specific problems with a range of other phonological tasks, all of which contribute to the reading difficulty. They may confuse similar sounding words such as cone/comb, have problems recalling words especially names or remembering word sequences such as rhymes, songs and letters of the alphabet. Additionally they may be inaccurate in their articulation of multi-syllabic words. For example, saying cimanom for cinnamon or bsgetti for spaghetti. It has been suggested that these difficulties all have their basis in the inaccurate laying down, storage and retrieval of sounds – they are often referred to as phonological processing problems.

Developing Phonological Awareness

The Preschool or Kindergarten can be an ideal place to involve children in activities that will develop Phonological Awareness in a fun and relaxed way. Even though many preschool children will not yet be ready for reading or know any letters of the alphabet they can still develop good listening skills and build early levels of Phonological Awareness that will
support them later when presented with formal reading instruction. Parents can further encourage this development through reading and talking about books regularly with their children and introducing them to rhymes and sound games.

**SOME GENERAL SUGGESTIONS FOR EARLY PHONOLOGICAL AWARENESS**

- **Encourage active listening**, setting an atmosphere of fun by using a headband with oversized “Mickey Mouse” ears attached. Make a habit of playing games that focus on words, syllables, rhyme and sounds.
- Thinking about sounds is a very abstract task for young children. They will need time and practical activities to understand the concept of a sound. A bridge to this understanding is through developing oral awareness. A mirror will help children explore the way their mouth and tongue moves as they say the sounds – e.g. m f p (sounds not letter names). Encourage children to copy sounds and words and talk about how their mouth and tongue moves.
- **Take time to emphasize how words are said** and provide children with opportunities to practise correct pronunciation of words in an atmosphere that allows mistakes and experimentation. The clearer that the sound patterns are laid down, the easier it will be for children later on, to retrieve the correct sounds in words.
- **Assist children to discover syllables, rhyme, and alliteration** (words that start with the same sound) as you talk about words and play sound and action games.
- **Be clear and accurate in the way you talk about sounds and letters** and how they relate to each other. We can hear sounds as we say or make sounds in our mouths. We can see and write letters on the page. Don’t confuse children with inaccurate requests such as – What letters can you hear at the beginning of that word?
- **Remember that there are 2 “baskets of knowledge”** – one for sounds and one for letters. Young children need to build up their skills in each “basket” before they are ready to learn how the two are linked.
- **Promote Phonological Awareness** by drawing attention to different aspects of rhymes and sound play in books such as those listed below. Alphabet books will also help to increase awareness of sounds at the start of words as well as develop familiarity with the names of the letters.
- **A balanced preschool program** involves many components. We must keep the role of Phonological Awareness in perspective and see its place within the broader focus of building good oral language skills. Free and imaginative play, physical activities, real life experiences, learning about new words, reading to children and encouraging story telling and learning about questions are also important.
- **Remember that all the Phonological Awareness activities should be fun and not a learning drill.**

**ACTIVITIES FOR PHONOLOGICAL AWARENESS**

**SYLLABLES:** Children love a sense of absurdity combining nonsense, movement and rhythm.

- **The Train Game**
  Let’s pretend we are on a train. Copy the train driver (teacher) as he/she calls out the names of places we will visit. The teacher selects fun sounding multi-syllabic words for the children to say and clap out the syllables. For example: “Stopping all stations from Toot-gar-ook to Wan-ga-rat-ta.” or “Next stop Dim-boo-la. Or “Do you want to go to Win-ky-woo or Tim-buc-too?”

- **The Longest Word**
  Ask the children to think of the longest words they know. Demonstrate the length, clapping out the beats or syllables – caterpillar, encyclopaedia. When you notice long or interesting sounding words, have fun with the children, repeating and breaking the words up into their beats. Eg. Cat-a-ma-ran. Be aware that some children will still be thinking that ‘long’ word refers to the meaning of the word and might suggest ‘train’ as a long word!
RHYME – Onset/Rime: Remember that building knowledge of rhyme takes time. Children usually find it easier to recognize rhyme than to produce rhyming words unprompted.

- Sing songs and read nursery rhymes
  Emphasize the rhythm and the rhyming words in old favourites such as Incy Wincy Spider, Little Jack Horner, One Two Buckle my Shoe. Repeat the rhyming words and ask children to copy eg. Incy Wincy Spider-spout -out.

- Rhyming Riddles
  Children can enjoy solving these riddles and then afterwards finding the words that rhyme.
  In the garden it grows
  You can smell it with your nose.
  It is called a _________ (rose)

  It sleeps on the mat
  It’s bigger than a rat
  It is called a _________ (cat)

- Rhyme cloze:
  Providing a context for the children will make it easier to think of a rhyming word to complete the sentence. In this task the answer is always a body part.
  Mrs Rose has a mosquito on her _____(nose).
  Jenny Bin has a pimple on her ______ (chin).
  Mr Weg has a broken ____ (leg).
  Tommy Weir has a flea in his ____ (ear).

FIRST SOUND AWARENESS: Some children may already have an awareness of the first sound of words prior to formal teaching, whereas others may not. However all children will have fun with sound play that makes the alliteration (each word begins with the same sound) obvious.

- Alliteration Game: Children will play a “copy-cat” as the teacher ‘builds up’ an alliterative character e.g. Miss Marble. Miss Marble’s muffins. Miss Marble makes muffins. Miss Marble makes marvellous muffins. Miss Marble makes marvellous marmalade muffins – “mm …” Other examples that you might begin with could include silly Simon ..., tiny Tina..., little lambs ...

- The First Sound Shop: Set up a shop that sells only things that start with a particular sound. For example: The Mmmm shop sells milk, mice, marbles, marshmallows, mushrooms, matches, monkeys, mugs, mops and maps. Children brainstorm other items and may be encouraged to bring from home items that could be displayed. Try this with other sounds e.g. ‘b’ (balls, butter, bags, beetroot etc), or ‘s’ (sandwiches, soup, sardines, sox etc).

- The Food Game - Watch what you eat!
  Each child stands and tells the group the name of a food they like that starts with the same sound as their own name. The activity could be extended to include an item they don’t like to eat as well. For example, “I’m Fiona and I like to eat fish but I don’t like to eat frogs.”

- I Spy: Identify an object in the room and say “I spy with my little eye something beginning with the sound ‘m’…..” Mummy, make-up, mandarins, muffins, milo etc. (Make sure to use the sound not the letter name).

Children’s Literature for Rhyme, Alliteration and Syllabification.

Each Peach Pear Plum. by Janet and Alan Ahlberg
Goodness Gracious by Phil Cummings
Where’s my Teddy by Jez Alborough
In Search of Octopotamus and Other Strange Animals by Allan Cornell
Don’t Forget the Bacon by Pat Hutchins
Pass the Jam Jim by Kaye Umansky and Margaret Chamberlain
Happy Families series - Mrs Plug the Plumber, Mr Tick the Teacher etc. by Allan Ahlberg
Hairy McClarey from Donaldson’s Dairy by Linley Dodd
Can You Hear me Grandad? by Pat Thompson.
PHONOLOGICAL AWARENESS—PREPARING FOR LITERACY

Other Useful Resources
Love and Reilly – Speech & Language Products
My Go. Sandpiper Publications

Further Reading
Phonological Awareness – It Makes Sound

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LINKING SOUNDS AND LETTERS

How is English regular?
When teaching young children to make sense of the written form of English in early reading and spelling, it is important to focus on consistencies. There are three broad areas of regularity in English spelling – alphabetic, patterns and meaning.

1. Alphabetic: The Alphabetic principle is the understanding that the written letters represent the sounds of the spoken language. The area of alphabetic regularity addresses sound-letter knowledge in all positions of the word, including the sounds within blends in phonically regular words, for example the ‘t’ sound in the word stop or the ‘n’ sound in the word sand. This mapping in English is not always a strict one to one but there is a high degree of consistency and an early mastery in this area enables children to gain confidence with their spelling and reading of simple words.

2. Patterns: Of course not all words are phonically regular and so beyond the individual sound-letter mapping, students must learn to focus on larger “chunks” or groups of letters that match up consistently with “chunks” of sounds. For example, the regular letter and sound pattern of the rime ‘ain’ in words such as pain, main, stain, or the regularity of long vowel digraphs such as ‘ee’ in words such as feet, feed, seek.

3. Meaning: The third area of regularity is reflected in the way we can add parts of words to change word meaning as in the following examples – report (noun), reports (verb), reporter, reporting, reportable. This area is often referred to as morphology and includes the understanding and use of both the meaning and the spelling patterns of prefixes and suffixes.

Knowledge in all of the three areas of regularity in the English language is important. This knowledge will enable students to apply their knowledge to new situations (analogy) and become independent learners. Whilst this article will focus mainly on Alphabetic knowledge, you can read more about pattern regularity in Newsletter No. 9 Let's talk about rhyme, rime and analogy (June 2004). The important area of Meaning will be the subject of a newsletter article in the near future.

Alphabet Knowledge
A preschooler’s Letter Name knowledge has been shown to be a consistently strong predictor of a child’s success with learning to read in Preparatory through to Yr 2. Some young children may learn the alphabet by heart but fail to develop sufficient confidence and flexibility to consistently recognise, name or
write the individual letters of the alphabet. Students do need to be taught “the alphabet” but they also need to be taught the relationship between sounds and letters. A multi-sensory approach is best for teaching the links between sounds and letters. The use of all of the senses – hearing and saying the sounds and looking at and writing the letters - gives maximum reinforcement and practice.

For each letter students will need to learn
1. its name
2. how the letter looks – developing a visual memory or template
3. how the letter is written – developing a ‘motor program’ or memory for the movement
4. the common link between the letter and sound it represents.

“Two baskets” of knowledge
Establishing the link between sounds and letters is essential when learning to read and spell an alphabetic language such as English. There are “two baskets” of knowledge to be built up – the sound basket (Phonological awareness - see newsletter No. 21. Phonological Awareness – preparing for literacy) and the letter basket. It is important to consolidate knowledge in each of these baskets for two reasons.
1. the sound-letter link will be easier to learn
2. there will be less confusion between the sounds and letter names.

1. THE LETTER NAME
Letter names are important. If something has a name it is easier to recall both what it looks like and how it is formed. Letter names are often initially learned as a rote sequence of the alphabet. Gradually children learn to identify individual letters, pointing to the one that is named or naming it themselves. Remember that the names of the letters are arbitrary and some students will need much practice before they can name individual letters automatically. Be sure to be clear in your own language that you are doing an activity about the names of the letters as distinct from the sounds that they represent.

**Concertina alphabet.** Write the letters of the alphabet, evenly spaced, in sequence on a long strip of cardboard. Then fold the card between the letters, alternating backwards and forwards, to form a “concertina”. Children will enjoy opening the concertina and reciting the alphabet or randomly opening it to name a letter or short sequence of letters.

Some children will need the support of the whole sequence of the alphabet for some time, before they are confident in naming individual letters. For example, if they open the sequence at P, they may need to go back to a familiar sequence such as - l m n o … before being able to name the letter P and continue. Encourage children to touch or point to the letters as they say the letter names.

**Taking Turns.** Children recite the alphabet with a partner, taking turns to point to and name alternate letters.

**Missing letters.** a) Write out the alphabet in sequence and use sticky “post it” notes to conceal some letters. Children recite the letter names in sequence pointing to and saying the name for each “post it” note letter as well as the visible letters. b) Use the “post it” notes to cover some letters and ask the children to identify which letters have been covered. Lift up the “post it” note to check if the letter names are correct.

2. THE VISUAL TEMPLATE
When we hear or read the name of someone we know well, we can bring to mind the facial appearance of the person. Similarly this process of visualization can be applied to letters so that when we think of, or hear the name of a particular letter, we can “see” it in...
our mind – that is, we can recall its visual pattern or template. We need strong and reliable visual templates for letters and words, to build our orthographic knowledge of how words should look. This will greatly assist both word recognition and spelling. **Letter T.V.** Set the scene by explaining to the students that they each have their own special T.V. for seeing letters. They can practise turning the on/ off button or use the remote control! The colour and size of writing on each person’s T.V. will vary. Name and then show a particular letter for 3 seconds (after practice you can eventually just name the letter). Ask the children to ‘tune in’ on their own T.V. It can be helpful to ask the children to shut their eyes in order to ‘see’ the letter in their mind. Select some children to name and describe the shape, size and colour of their letter. **Word T.V.** This is an extension of the above activity. Using a small sight word e.g. the or another familiar word such as stop, ask the students to view it on their own T.V.. The letters of the word can be named forwards and even backwards. Again ask students about the letter colour and size on their T.V.

**3. THE MOTOR PROGRAM**

The motor pattern of how we write a letter needs to become automatic. This then frees attention for the tasks of spelling and effective expression. Knowledge of how a letter is written is very much linked to the visual template of the letter. The child is more likely to be able to recall how to write the letter if its picture can be brought to mind. The motor program for a letter should be activated by either its letter name or by the sound it commonly represents.

**Talk and Write.** Use verbal reminders to encourage the correct writing of each letter. For example for the letter ‘h’ - ‘go down the road (stick) and up and over the hill (hump).’

**Tracing Letters.** Reinforce the motor program by asking children to trace letters in the air, on sandpaper, or in sand or shaving cream spread on the table surface.

**Guess the letter.** Children sit with a partner and take turns to close their eyes as the partner traces a letter on their hand. Can they name the letter?

**4. THE SOUND-LETTER LINK**

Establishing the link between sounds and letters is fundamental to early reading success. Students will make this link more easily if they already have some degree of phonological awareness. Although many students appear to learn the sound-letter links easily, many others will need explicit teaching and consistent practice to learn which sounds and letters go together. We need to remember that isolating an individual sound within a spoken word and associating it with a particular shape or letter, is an abstract task.

We need to explain the tasks in simple terms and provide ‘hands-on’ activities, so that children will learn without confusion.

**Practical:**

**Triggers.** Many children, particularly in the early stages of learning, will benefit from some kind of trigger to remind them of the sound for a particular letter. Young children will often learn the sound letter link for their ‘own’ letter – that is the first letter in their name. Teachers may reinforce strong sound-letter links through association with rhyme, song or alliteration. In the *Oxford Essential Reading Series, Sound Starters* (Love and Reilly 1999), the trigger is a colourful and amusing character, for example Hairy Horse. These books use an alliterative phrase within the context of an amusing story told in the pictures, to reinforce the sound - in this case ‘h’ - and teach the letter. The *Singing Alphabet* (Love and Reilly, 1994) and *Letterland* use a similar premise.

**Wall charts** can be useful but are often used only for reference rather than as a teaching aid. It is best to avoid those charts that show unusual sound-letter associations eg. ‘g’ for ‘giraffe’ rather than as in ‘goat’. Also note the vowels as many charts choose a long vowel
eg. ‘a’ for ‘ape’ rather than ‘apple’. We recommend that the short vowels (a as in apple, e as in egg, i as in itch, o as in orange, and u as in ugly) rather than the long vowels, be tackled first in teaching, as they show more consistency in the match. Lastly, try to avoid charts that use the sound in a blend at the beginning of the word eg. ‘f’ for ‘frog’, because young children have difficulty isolating initial consonants occurring in blends.

Multi-sensory Learning
Comprehensive, reliable and automatic knowledge of a sound-letter link involves developing many sensory channels and connections.

Practical activities must involve – looking, saying, listening and writing,
- saying the sound or the name of the letter and writing the letter,
- visualizing the letter and writing the letter,
- visualizing the letter and saying the sound
- saying the name of the letter and visualizing the letter
- writing the letter and saying the sound

The principle of “Look, say, cover, write, check” can be applied to this early stage of establishing reliable sound letter links. However be sure to reinforce the sound not just the letter name.

Charting Sound-letter Knowledge
The growth of reliable and automatic sound-letter knowledge should be documented systematically for the beginner reader. You can create your own grid or use the one provided in the Oxford Essential Reading - Sound Starters and Sound Stories Teacher Resource Books. Can the student -
- Name the letters randomly?
- Say the sound when shown or told the name of the letter?
- Write the letter when given the sound/letter name?
- Choose/select the letter from a small group when given a sound/letter?
- Provide a word that begins with a certain sound/letter?

When children have reliable knowledge of a sound-letter link, write the letter on a small cardboard square or tile and add it to their own “box” or envelope. In this way children can further practise the links as they handle their own tiles and later on use these to make and read words simple words. They will gain a sense of mastery and appreciation of their own progress in learning to read and spell.

Non-word reading and spelling will provide information about children’s development of sound-letter knowledge. When the word is nonsense, children must rely on their own phonological awareness and letter knowledge. For example, in the spelling of the words zog or shemp or the reading of the words tem or stip. “Invented” spelling and reading attempts will reflect the children’s growing grasp of the English alphabetic principle.

Why do children confuse some letters of the alphabet?
There is not always a transparent relationship between the letter names and the sounds.
- b d j k p t v – for this group the sound occurs as the first sound of the letter name – e.g. ‘b’ in “Bee”
- l f m n r s – for this group the sound occurs as the last sound of the letter name – e.g. ‘s’ in “es”
- c g h q w x y – this is the most easily confused group. The sound does not occur in the letter name – in fact the name is misleading as it highlights other sounds – e.g. “Y” – ‘why’ - which falsely suggests that “Y” says ‘w’.
Considerations for teaching. Which sounds–letter links first?

- Choose those sounds that are easier to see on the face as well as simpler to articulate such as p, m, s, b, t, f
- Choose familiar and frequently occurring sounds/letters (n, p, s, d) rather than less common ones (x, q, z)
- Consider the developmental sequence that children master these sounds in their own speech - don’t start with r, l or th, as these are later developing sounds.
- Separate the introduction of sounds/letters that sound/look similar. E.g. m/n, p/b, w/r
- Choose letters that have name with sound in initial position e.g. B, T

How to get started?
We suggest the teaching of 5 consonants and 2 short vowels, choosing those that fit the criteria above. A further consideration when choosing teaching of letters is how useful the particular combination of letters will be in enabling the children to create, read and spell real words.

These letters could generate the following words:

fat sat pat mat fit sit pit mit tap sap
map tip sip pip Tim Sam Pam
mats pats fits pits tips stamp

A suggested order for additional consonants and short vowels is:

- b c h r j sh o
- d n g l v w ch e u
- x y k q z th

Summing up
Linking sounds and letters is one of the first and most vital building blocks for learning to read and spell English words. We must ensure that we are thorough in our approach to teaching young children about both spoken sounds and the letters that represent them. Our goal is that children will develop accurate and reliable sound-letter links so that they will become confident ‘decoders’ of both familiar and unfamiliar words.

Resources

What is fluency and why is it important?
Fluency is the ability to read quickly, smoothly and accurately with attention to expression (Cohen & Cowen, 2008; Bursuck & Damer, 2007; McCormick, 2007; Center, 2005; Crawley & Merritt, 2004; Shanker and Ekwall, 2003). Fluent reading is important because it frees up students to focus on reading texts for meaning.

Cohen & Cowen (2008, 185) believe it is … the bridge between word identification and comprehension. It could also be argued that students with good comprehension are in a position to read fluently because they are able to attend to punctuation and intonation (Bursuck & Damer, 2007).

A compelling reason for development of fluent reading is that it allows students time to read more texts. As students proceed through school there are increasing requirements to undertake research based investigations, read textbooks and other subject-based materials. Fluent and accurate readers will more readily manage these increasing demands.

It is likely that most educators have observed students reading in a slow, disjointed and laboured way such that they forgot what was read. In fact, it is not uncommon to observe two students reading the same text with the same level of accuracy but one student taking much longer to read it and with a lower level of comprehension.

Strategies to improve fluent reading skills
So how do educators develop fluent reading when it is not an automatically developing skill?

Educators need to provide substantial amounts of time for students to read easy and familiar texts. These texts are ones that can be read with at least 95% accuracy and that place little demand on word naming skills. It is when reading familiar and easy texts that students can be helped to develop their fluency. One of the comments that serve no useful purpose is when educators tell students that they need to read faster. Most students would read faster if they knew how. This may also give the impression that fast reading is valued at the expense of comprehension.

Another consideration is to ensure that students are reading a range of different text types. If students are only reading one text type, it is possible that when asked to read different text types, they may be less able to read fluently because of limited practice.

Allington (2007) also reminds educators that perhaps they hinder students’ ability to read fluently by giving them texts that are at the difficult level AND interrupting them too often when they make mistakes on these difficult texts.

First and foremost, educators need to provide methodical and explicit teaching about HOW to read fluently because it will not necessarily develop without targeted instruction:
1. Provide robust book introductions and read students some of the text to model how it may be read. Explain that they need to read the text in a similar way to how people would actually talk.
2. Model fluent reading by reading to students every day and use a range of text types.
3. Model reading that is not fluent and ask students to describe why it is not appropriate.
4. Regularly talk about WHAT to take note of in texts, for example punctuation, speech marks and phrasing.
5. If finger pointing appears to be slowing down students’ reading then give them a ruler or strip of ruler-width paper to hold above the line being read. Placing the strip above the line allows for fluid eye movement down to the next line without being delayed by slow motor movement. Alternatively, give students a ruler-width piece of overhead transparency to place below the line being read so they can read the next line even if they are still moving the piece of overhead transparency down the page.
6. Have students read in unison with the educator (big books or guided readers are good for this process) on the first reading. On the second reading, ask students to read just after the educator and on the third reading to read just before the educator.

7. Have students read in unison so that fluent readers can pull slower readers along with them. On another occasion ask less fluent readers to read that same text aloud.

8. Have students record their reading and then play it back. Discuss with them how the text could be read more fluently.

9. Ask students to read the same text on a few (no more than four) occasions. Use the same time frame and record the number of words read. The practice effect should see improvement in their fluency and this can be cause for acknowledgement. Note, be careful here though as too much re-reading of the same text may have a counterproductive effect by becoming tedious.

10. Have students read along with a narrated text on a CD or the Internet. Note, check that the rate of narration is at a manageable speed.

11. Use books of plays and have students take on a character. Repeated readings of the plays will support increased use of expression for their parts.

12. Have students read easy texts (for them) to younger students. This has two major benefits a) they can practice reading texts with a dignified purpose and b) the rehearsal and reading may enhance self confidence as well as provide opportunities for them to be valued older role models.

13. Read rhyming verse so that stress can be put on the rhyming words.

14. Use texts where spoken language is written in a different colour. This can be used to remind students about changing the pitch of their voice.

15. Sing songs with words in view. Model what happens when the words are not sung in time with the music.

16. Use phrase cards and model how to read words in chunks.

17. Show students the same sentence written three times but with different ending punctuation. Model how the punctuation directs a change in emphasis (The dog bit the ball. The dog bit the ball? The dog bit the ball!).

18. Copy a page of text onto an overhead transparency and, with a coloured pen, show students how you are breaking the text into segments of meaning. Read the text to students and then have them follow along. Finally, ask them to read it without your assistance.

19. Bursuck & Damer (2007, 200) suggest that educators ask students to read…slowly before reading it quickly. Read…quietly before reading it loudly. Read…in a high pitch before reading it in a low pitch. They then go on to suggest that when students can …change one dynamic, have them change two. They maintain that this provides variety for students and allows them to hear how text may take on different meanings when these variations are used.

20. Johnson (2006, 54) suggests using framing cards to model how to read in blocks of words.

Whatever fluency practice is provided, educators must always ensure that comprehension of texts is emphasised.

References


Bursuck, W.D. & Damer, M. (2007). Reading instruction for students who are at risk or have disabilities. Boston, MA: Pearson Education.


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**Reading Comprehension**

*Reading Comprehension*

*Literacy is the ability to communicate purposefully and appropriately with others in a wide variety of contexts, modes and mediums. Different contexts require general and specific skills, knowledge and understanding as students compose meaning for themselves and others (NSW English 7-10 Syllabus, 2003).*

Reading literacy according to the Programme for International Student Assessment (PISA) involves understanding, using and reflecting on written information in a range of situations (*Teaching Reading Report, 2005*, p89).

Reading comprehension therefore can have a multiple of definitions according to the purpose of communication, but the common principle is the ability of the reader to make meaning or extract meaning from the text.

The specific skills, knowledge, understandings & reflections can be likened to what Anderson et al (1985, p.7) in the *Teaching Reading Report* (2005), refer to as a performance of a symphony orchestra. The report expresses that reading, like a symphony is a holistic act that can be analysed into sub-skills such as phonemic awareness, phonics, fluency, vocab knowledge and comprehension. The success in reading comes about like music through practice over a range of genres for all sub skills and like music there may also be more than one interpretation on a text or music score.

How a text or score is interpreted by a reader may depend on the background of the reader, the purpose for reading and the context in which the reading occurs.

**Factors that affect comprehension**

Good readers read for meaning, choose material they are interested in reading and are able to use a variety of meta-cognitive strategies while they are reading.

They know why they are reading a text and are able to make an overview of what they are reading before they begin. They are also able to make predictions and read selectively as they construct meaning.

Factors that contribute to their success in reading comprehension are:
1. Their prior knowledge and or interest in the subject or theme
2. Their purpose for reading to achieve personal satisfaction or a purposeful outcome
3. Their ability to decode words to read fluently.

Effective Reading Instruction in Middle and High Schools

Reading comprehension is a developmental process and therefore strategies for the teaching of phonemic awareness, phonics instructions, fluency and vocabulary development will be different across years of schooling. Students with poor comprehension skills may have gaps in their knowledge and it is important to identify their difficulties and scaffold them through relevant learning experiences.

There are various models to support a framework for the teaching of reading comprehension through an analysis of understanding the knowledge and skills that readers use to be effective readers. Freebody and Luke (1990, viewed DECS), identify four roles of skills to systematically support the analysis of how a student reads through the stages of code breaker, meaning maker, text user and text analyst.

Successful comprehension instruction in middle and high schools includes using comprehension strategies such as summarising, knowledge of text structures, meta-cognitive strategies and oral comprehension in reading comprehension.

1. **Summarising:** The ability to summarize provides students with an overview of what has been heard or read and assists them to identify key themes. Identifying keywords and understanding the meaning of those words within the context of sentences may support them to make meaning and retain chunks of information.

2. **Knowledge of text structures** – Students need to be able to read different text structures and understand and analyse the construction of stories and non stories.
   a. Narrative texts do not always follow a sequential format and themes and the intertwine of characters and connections between events can be confusing for some students. Explicit teaching of the necessary connections may assist students with comprehension difficulties.
   b. Expository texts can be written as descriptive or sequential. Students will need to have knowledge of the structural patterns and variations to these patterns. Graphic organisers and cue cards/sheets may assist students to categorise information.

3. **Meta-cognitive strategies** – the ability for students to develop the skill of thinking about how to approach a task (Brent, Gough & Robinson, p63). It is important for teachers to understand how students think about thinking so they can:
   a. model think aloud activities
   b. provide appropriate semantic maps for students to diagram relationships and ideas within reading
   c. cue sequential steps through a reading process
   d. teach prediction, vocab and questioning techniques
   e. monitor their comprehension and reflect on progress through the comprehension activity.

When students use meta-cognitive activities to improve their reading comprehension, they not only think about the **how** of learning but also improve their own knowledge and skills towards mastery of a task through opportunities for critical thinking, increased reasoning ability and improved memory retention. Setting personal goals towards mastery is a very powerful means to improve future performance and personal self esteem.

4. **Oral Comprehension in Reading Comprehension**

For students with learning difficulties/disabilities oral comprehension may be more developed than their reading comprehension. Spear –Swerling (2005),
advocates that using the oral strengths of some students may be a vehicle to develop higher-level comprehension skills that otherwise may not be evident through reading and writing comprehension tasks.

Assessment of Reading Comprehension
It is important that teachers use a range of accurate assessments to understand the strengths and weaknesses for knowledge and skills that readers have. Information gained can then be used to plan instruction, measure progress over time and also determine intervention or extension opportunities. Salivia and Ysseldyke (1998, in Westwood 2003, p87) suggest students may have comprehension problems with the way they approach reading, their lack of effective strategies to process information and their inability to monitor their own level of understanding.

Diagnostic testing, benchmarking and analysing a student's reading ability for fluency, accuracy and comprehension may assist the design of teaching methods and curriculum learning experiences.

Formative assessment processes based on planned observations, checklists, and reflective interviews can assist in determining student strengths and weaknesses and specific reading behaviours.

Throughout all assessment procedures the most important indicator to improve comprehension according to Westwood (2003) is to focus on the how – how students do or do not use reading strategies, how they approach a text to obtain the main ideas and how they think critically, generate questions and make predictions.

Teaching Methods to Develop and Improve Comprehension
Westwood (2006) presents various research suggestions for a balanced literacy program, promoting the ability to use, reflect and communicate on meaning in text:
- effective comprehension strategy
- instruction to promote self regulate learning such as scanning, self questioning, previewing, self monitoring, rehearsing information and summarising.
- explicit teaching of vocabulary within authentic texts across all content areas to improve comprehension.
- matching text to readability level of students
- teacher modelling and demonstrating of effective processing of text for meaning
- student centred activities with peer mentoring / cooperative learning and opportunities to motivate and build student self esteem
- quality programming especially focussing on time to read, using text for new information and oral reflective communications between teacher of peers.

Helen Lamont (TORCH 2007) offers some tools that educators can use with their existing practices to address comprehension learning needs. They are guided silent reading, read and retell, three-level guide and cloze activities. The balance they can provide between direct instruction and strategy instruction can be used at all levels of schooling.

If reading is a symphony of structural processes designed to create meaning, then the artistic ability of teachers is to provide purposeful comprehension opportunities for all students. A symphony is not a uniform process, but rather is as diverse as the difficulties that students may face with reading comprehension. A quality symphony has an artistic purpose, where the individual can interpret meaning for their own pleasure or success.

References
The place of oral language in the emergent literacy framework has long been recognised (Teale and Sulzby, 1986). Research has shown that three areas of emergent literacy are linked to later literacy success: oral language skills, print knowledge and phonological awareness. Learners who enter school with limited emergent literacy skills are at high risk of encountering difficulties learning to read.

Reading and writing are language on paper (Washington 2006). We read and write words - words come from our minds and mouths and travel into the ears and mind of a listener – words are LANGUAGE. Comprehending the words on paper, the language on paper, is the ultimate goal of learning to read and is what is termed reading comprehension. For some children, difficulty with reading comprehension is linked to weak oral language skills or a different primary Discourse (Gee 2000) from that privileged in school. Children at risk include those with communication difficulties, hearing impairments, lower cognitive skills, ESL speakers who may not yet be proficient in English and children from lower socio-economic groups.

It is important to consider a child's competency with oral language when thinking about their reading comprehension skills. How can we expect children to understand the language read if they struggle to understand the language they hear? For example in the book *Possum Magic* Mem Fox writes:  
*Because she couldn’t be seen she was safe from snakes, which is why Grandma Poss had made her invisible in the first place.*

Children with weak oral language skills may find this passage difficult to understand when they are listening to it because the word *invisible* may not be in their vocabulary and they may not understand *why-because* explanations. The language is the same whether you’re listening to it or reading it and language comprehension is the problem.
What oral language skills do you need to understand what you read?

- **Vocabulary**: If children don’t understand the words, the vocabulary, it limits comprehension. Children who have poorer vocabularies often struggle to make meaning, because they don’t understand many important words they encounter in reading (Hindman and Wasik, 2006). The terms *invisible* and *visible* are pivotal to the whole story in *Possum Magic* so if a child doesn’t get these words, much of the story will go over their head.

  Part of vocabulary expansion is building word knowledge and knowing how words are related. To understand the sentence *Tigers are savage beasts, these wild animals hunt prey in the jungle* requires connections to be made between the more general term of *wild animals* and *beasts* and the more specific word *tiger*. Learning about categories and subcategories helps organise and extend vocabulary. Vocabulary is important to reading comprehension!

- **Complex syntax**: Children who struggle to understand complex sentences or longer more elaborated sentences when they hear them, will find it difficult to make meaning of these sentences during reading. Simple sentences are often used in conversation to get the message across, for example, *I went to the new Thai restaurant on the weekend. Jack recommended it. It was brilliant*. These sentences could be combined using complex syntax for example, *On the weekend I went to a brilliant new Thai restaurant that Jack had recommended*. Complex syntax helps to compact information succinctly and is used in extended, elaborated talk, for example, *The man who brought the rubbish bag over yesterday, drives a huge red truck*. Complex syntax is typical of book style language, for example, *He raised the wand above his head, brought it swishing down through the dusty air and a stream of red and gold sparks shot from the end like a firework, throwing dancing spots of light on to the walls* (Harry Potter and the Philosopher’s Stone, pg 65). Children who understand some but not all key information words in this sentence won’t get the full picture. The complex sentences used in oral language are a stepping stone towards understanding the longer and more complex forms seen in written language.

- **Narrative Structure**: Telling stories is a major way we communicate with others (Hardy, 1978). We tell stories about the weekend, about the *funny thing that happened the other day*, or the quirky things children do. We organise our information into a beginning, where we talk about when the event occurred, who was there and where it happened. Our stories have a middle, the problem or a funny, memorable event and the ending where we talk about how it turned out. We use our knowledge of narrative structure to organise the information, which makes the story easier to tell and understand. Story construction starts out as an oral language skill. Competent story tellers then use their understanding of how information in a story is organised to help them understand and write stories. Children who have difficulties telling stories often struggle to gain meaning from listening to and reading stories.

What can be done in the Classroom?

Early intervention to improve the oral language skills of children is critical in minimising the effects of difficulties in this domain later down the educational track. Explicit teaching of oral language is important for many children and can be done in the context of the classroom. A focus on developing children’s oral recounting and narrative skills is important as it supports recount and story writing. *News Talk* is an excellent teacher training package developed by DECS speech pathologists and provides explicit strategies for teachers to use to develop oral recounting in the classroom.
**The Role of Oral Language in Literacy**

*News Talk* uses recount planners to help children think about and organise their ideas, engages children in the oral telling of their story and finally moves into writing.

*Children’s story books* can also be the focus for oral language teaching. Read the book several times and during the readings key vocabulary can be selected, explained and ‘hands on’ examples shown to children; complex sentences can be pulled apart, through transformations, where sentences are written on card, then the card is cut into separate words and the sentence reconstructed; the narrative genre can be addressed through unpicking the story using a narrative planner. *Class topics* can be used to address vocabulary expansion by introducing new words, providing definitions, doing *hands on* activities to show the meaning of words and revisiting the meaning of the word to consolidate learning.

Literacy is more than just words on a page. The roots of literacy lie within oracy and the classroom is a powerful context for language teaching.

*Note: To purchase the News Talk CD please contact the Statewide Verification and Professional Support Team, State Office, Ph: 82269925.*

**References**


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Vocabulary development has important links in learning to read and is one of the 5 essential elements of effective reading instruction (National Reading Panel, 2000):

Instruction in phonological awareness and phonics assists children in learning to crack the code or decode words. Once children have basic decoding skills there is an emphasis on building reading fluency and comprehension and to comprehend, you need to know the words. The National Reading Panel (2000) concluded that the stronger a child’s vocabulary, the better they do with reading comprehension. Children with strong vocabularies will quickly connect meanings to words when they read, then move onto the next word, leaving processing space in their working memory to make meaning of the text. Children with restricted vocabularies often find decoding unknown words difficult, causing hiccups with fluency which results in losing the thread of the text.
Gaps in word knowledge lead to important details being overlooked or misinterpreted, compromising meaning (Hindman & Wasik, 2006). The following sentences are the same, however have one word that is different, which changes the meaning of the sentence completely:

The boy stared anxiously out the window.
The boy stared morosely out the window.
The boy stared expectantly out the window.

Understanding these key words adds meaning. The whole point of reading is to understand what is written, so building vocabulary is important.

Some children come to school as competent vocabulary users. These children will find learning new words easy and immersion approaches will be successful for them. However many children come to school with small vocabularies and they are often not efficient in learning new words. Immersion isn’t enough for these children and they need explicit teaching in order to learn new words. These children often don’t ask what a word means, as they are accustomed to not understanding and don’t realise that asking will help them learn.

How can educators help children expand vocabulary?
The three tier system developed by Beck, McKeown & Kucan (2002) is a useful framework for thinking about words and assists in selecting words we need to teach children.

- **Tier 1** words are basic words that most children are familiar with and usually don’t need to be explicitly taught. However, children with language impairment or children from ESL backgrounds may need some instruction with these words.

For a junior primary child, these words may include *truck, run and pretty*. For an upper primary child, these words may include *dashed, timer and tanker*.

- **Tier 2** words – More complex and abstract words than tier 1, which serve to make language more descriptive and precise.

For a junior primary child, these words may include words like *enormous, excavate* and *disguise*. For an upper primary child, these words may include *glimpsed, melancholy* and *blight*.

- **Tier 3** words – which is specialist vocabulary that pertains to a specific topic and are words that are not used frequently.

For a junior primary child, these words may include words like *Jurassic, and palaeontologist*. For an upper primary child, these words may include *photosynthesis* and *chlorophyll*.

Vocabulary teaching should target Tier 2 words as these are powerful in education and have a significant impact on reading comprehension.

The explicit teaching process involves:

1. **Explaining what the word means**
   Enormous means really really big!

2. **Showing what the word means**
   - act it out using lots of gestures
   - give real life examples the child will know about for example, *That truck next door is enormous! It’s a really really big truck!*
   - point to pictures or search for other objects that show what the word means.

3. **Over several few days, using the word in multiple contexts**
   An enormous tree, an enormous building.

Multiple exposures to new words is important, adding depth to meaning and demonstrating different ways the word can be used.

In play this might mean thinking about what interesting words could be taught, for example, when building a large hill in the sandpit, the teacher could model, define and explain the word *enormous*.
During book sharing, focus on tier 2 words. Make a list of tier 2 words from the book and check which words are important for comprehension of the story. Decide which words need brief attention and those that require elaboration. The Eric Carle book *Mr Seahorse* uses a range of interesting words, for example, *Mr Seahorse drifted gently through the sea, he passed right by .... A group of trumpet fish hidden in a patch of reeds*. Explicit teaching of the underlined words is important to build comprehension. The illustrations in the book will help, but for the child who has limited vocabulary this is not enough and a *Define, Do Model and Use* approach will be helpful. *Define* the word then *Do* - act out *drifting*, watch a DVD of seahorses drifting through the water, put a leaf on water and watch it drift along, drop a fluffy feather and watch it drift down. These are all concrete and visual ways *drift* can be taught and reinforced. *Model sentences* to show how the word is used and repeat the definition for example, *Look at the feather drifting down slowly. Drifting means to move slowly.* Provide opportunities for children to use the word – *Tell me what the feather is doing.* This systematic and explicit approach will help build vocabulary.

Vocabulary development IS important. If children are behind in their vocabulary development, it is difficult to catch up unless explicit teaching is used. This establishes a solid foundation for building more extensive and sophisticated vocabulary throughout the primary and high school years where vocabulary continues to be a key player in reading comprehension and an important tool in the craft of writing.

**Books**


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**References**


Reading Comprehension and Assistive Technology.
(Notes from a presentation by Kelly Fonner and Scott Marfilius Assistive Technology Supports for Reading Comprehension at the Inclusive Learning Technologies Conference 2008, Gold Coast.)

The guidelines of Universal Design for Learning are based on the premise of removing barriers to learning where students can participate and achieve through the provision of flexible curricular material. This means using multiple means of:
- representation
- expression and
- engagement.

For students with disabilities and learning difficulties, assistive technology can help remove some of those barriers.

This article is about how assistive technology can be used to support reading comprehension.

Students who have technology support for the decoding aspect of reading may also require support to comprehend the text.

When planning a program to develop students reading comprehension, a range of skills need to be taught and practiced prior to, during, and after reading.

An understanding of the developmental levels of each child as a reader is important.

Teachers need to consider the preferred learning modes of individual students in selection of technology tools.

Examples of various technology tools that support the development of reading comprehension skills are described below. Many of the technology tools can be used in more than one stage.

**Pre-reading stage strategies**
1. Set a purpose for reading
2. Build on the students’ background knowledge
3. Predict and check
4. Identify the main ideas and supporting details
5. Vocabulary preview.

**Related technology tools**
To check on students’ background knowledge and to set the context, you can use:
- spinners for questioning - Literacy Spinners (Carson-Dellosa), All-Turn-It (AbleNet), Randomizer (Adaptivation), The Hat (freeware)
- short videos from Incite (Don Johnston), Yahoo and Google video, www.australianscreen.com.au to provide information in a multimodal format.

Graphic organizers can be used to construct a story map with students predicting an ending. The highlighting toolbar in MS Word can be used to identify key words, main ideas, and supporting details.

The thesaurus in MS Word can be used to locate synonyms for vocabulary development. This tool provides a greater variety of associated words than that of a dictionary.

**During reading strategies**
1. Echo and choral reading
2. Answering pre-reading questions
3. Summarization
4. Highlighting
5. Create pictures of settings/characters.

**Related technology tools**
Create audio files from text to provide fluency practice. Read and Write Gold has this capability. TextAloud, an alternative option, has a number of innovative features which allow for the creation of audio files with metacognitive cues utilizing different computer voices. Alternatively, text can be uploaded and converted to audio from a free online service at SpokenText.net. Students could also use WordTalk (freeware) to listen to the MS Word document being read prior to reading a hard copy version while listening to the audio version.
**TechBits**

*MS Word* can be used to place questions and cues relating to a particular paragraph as hidden text. Students can toggle the *Show/Hide* button to access these cues when they are required to reflect upon the text. The *AutoSummarize* tool in *MS Word* can be used to create a summary of the text as a foreword to the main body of the text. Marking pens or *Dry-lighter* highlighting tape can be used to highlight different aspects of a story, for example, yellow for main idea, green for supporting facts, pink for key words. *Google* can be used to locate images to support visualization of the text.

**After reading strategies**
1. Review – highlighting, bookmarking, noting
2. Reflection/Responding
3. Outlining.

**Related Technology Tools**
Microsoft Reader (freeware) can be used to create a talking book version of the text. It also serves as a study tool with its highlighting, talking dictionary and note taking capabilities. Students can use a digital voice recorder or sound recording software to record their thoughts as an alternative to reflecting and responding to text in written form. The *Outline* view of *MS Word* can be used to list key words, phrases and ideas. This draft outline can then be sent to PowerPoint which the student may choose to further edit.

The following web links have further information about effective reading programs, strategies, resources and technology supports.

- **Electronic texts**
- Accessible Book Collection [www.accessiblebookcollection.org](http://www.accessiblebookcollection.org)
- Aesop’s Fables Online Collection [www.aesopfables.com](http://www.aesopfables.com)
- Audible [www.audible.com](http://www.audible.com)
- Authors 4 Teens [www.authors4Teens.com](http://www.authors4Teens.com)
- Bookshare [www.bookshare.org](http://www.bookshare.org)
- eLive Magazine is a monthly publication featuring current world events, movie reviews, geography features and more. The entire magazine is symbolized and is free to download from [http://www.symbolworld.org/](http://www.symbolworld.org/).
- List of Dictionaries [www.math.uni-paderborn.de/dictionaries](http://www.math.uni-paderborn.de/dictionaries)
- Project Gutenberg [www.promo.net/pg](http://www.promo.net/pg)
- Step by Step Reading Corner [www.readingcorner.org](http://www.readingcorner.org)
- The Reading Corner [www.carr.org/read](http://www.carr.org/read)

**Web resources related to teaching and learning literacy**
- CAST Center for Applied Special Technology [www.cast.org](http://www.cast.org)
- CAST Bookbuilder [http://bookbuilder.cast.org](http://bookbuilder.cast.org)
- Center for Literacy and Disabilities Study [www.med.unc.edu/ahs/clds](http://www.med.unc.edu/ahs/clds)
- Children’s Picture Book Database [www.lib.muchio.edu/pictbk](http://www.lib.muchio.edu/pictbk)
- Cliff Notes [www.cliffnotes.com](http://www.cliffnotes.com)
- Computer-based Study Strategies [http://cbss.uoregon.edu](http://cbss.uoregon.edu)
- Guided Reading for Comprehension [www.four-blocks.com](http://www.four-blocks.com)
- LD OnLine [www.ldonline.org](http://www.ldonline.org)
- Makes Sense Strategies [www.graphicorganizers.com](http://www.graphicorganizers.com)
- Read, Write, Think [www.readwritethink.org](http://www.readwritethink.org)
- Reading Rockets News [www.readingrockets.org](http://www.readingrockets.org)
- Spark Notes [www.sparknotes.com](http://www.sparknotes.com)
- Special Education Technology Practice [www.knowledge-by-design.com](http://www.knowledge-by-design.com)
- Study Stack [www.studystack.com](http://www.studystack.com)
- Taking the Mystery out of AT & LD [www.ldonline.org/indepth](http://www.ldonline.org/indepth)
- Tech 4 Learning [www.tech4learning.com](http://www.tech4learning.com)
- Texas Reading Model [www.te.xasatnet](http://www.te.xasatnet)
**TechBits**

**ClassMate Reader**

*ClassMate Reader* is a newly released digital audio book player. It reads text out aloud with a very natural sounding text-to-speech engine as it highlights the words. This innovative reading tool, which is the size of a Portable Playstation, also features a range of student supports for interactive multimodal learning. Study tools include bookmarking, voice recording, a highlighting function and a speaking dictionary. Books are stored on an SD card reader and the *Classmate* is recognized as a standard USB drive when connected to a computer.

SERU has purchased two of these devices and they can be borrowed for a short term loan. The detailed specifications can be found on the *Spectronics* web site.

**CAST Bookbuilder** [http://bookbuilder.cast.org/](http://bookbuilder.cast.org/)

The CAST Universal Design for Learning (UDL) Book Builder is an online tool used to create, read, and share engaging digital books that build reading skills for students. The online wizard allows for the creation and inclusion of a range of technology supports to aid reading comprehension. These assistive features enable the production of universally designed books that can engage and support diverse learners according to their individual needs, interests, and skills. Completed books can be downloaded for offline use. A number of books are also available in the public library section.


*The Center for Applied Special Technology (CAST)* has developed a number of eBooks built upon the principles of Universal Design for Learning (UDL). These UDL Editions take advantage of the flexibility of digital media to reach and engage all learners.
There are three levelled supports provided by animated coaches to assist in the activation of strategic reading skills and comprehension strategies. The Texthelp Toolbar provides reading and study supports for each learner. The books are suited to ten year olds and above.

Symwriter (by Widgit software)
Symbol supported reading materials can be of great assistance to children who have significant difficulty in reading text. Symbols can help visualize the meaning of words and concepts and research is currently being conducted into how symbol supported text can support all students. Widgit has recently released Symwriter. This program supersedes Writing with Symbols and has extra features very similar to Clicker 5. It also has new smart symbolizing technology which places the correct symbol with the actual meaning of the word.
Techbits

Boardmaker 6 now symbolates text as well!
The newest version of Boardmaker can create symbol supported text like Symwriter. The symbols automatically appear as you type. Like Symwriter, a body of text can be pasted in to the program from any source, and, with a click of a button, the program will add symbols to the text.

On Monday, the hungry caterpillar ate through one apple.

Resources Related to Phonemic Awareness

This book includes a collection of reproducible activities designed to strengthen phonemic awareness in primary age learners. The activities are organized by sound as well as by spelling patterns and skill areas.

*Sounds Fun, Love & Reilly, 2002. 61-0763-01.*
Sounds Fun for children aged 3-6 years, provides picture card packs for developing phonological awareness. There is also a *listening puppet* to help children refine their listening skills, first by identifying syllables, then rhyme and finally the first sounds in words.

*Fishing for Phonics, Lakeshore Learning. 63-3146-01.*
This magnetic fishing game provides two levels of play for practicing beginning sounds: one side of each mat has words and pictures that can be used to match letters to letters; the other side of each mat has pictures only and can be used by learners ready to match letters to beginning sounds.

This book containing photocopiable blackline masters presents a research-based curriculum in phonemic awareness intended to complement pre-reading programs for students in preschool and junior primary. The program also includes a simple assessment test for screening up to 15 children at a time.

The books in the Achieve series, containing blackline masters, have been designed and written for secondary learners who have low-level literacy skills and require modified classroom activities to fully participate in the curriculum. In Achieve! English Using Phonics, blend and sounds skills are reviewed to assist in improving learners phonics skills.

These photocopiable singing alphabet cards use meaningful language and amusing pictures to facilitate knowledge of the sounds of speech vital to early literacy progress.
Nursery Rhymes for Young Children: A Phonological Awareness Program ..., Wallis, A, 2002. 63-3164-01. The activities in this book are focused on nursery rhymes and have been designed to encourage the development of phonological awareness in young learners. The pre-literacy skills include: rhyming; identifying sounds and syllables; blending sounds to make words; manipulating sounds in words; segmenting words into sounds; early letter recognition.

Children’s Behaviour, Attention and Reading Problems, Granger, J, 1997. 18-0090-01. The author of this book sets out guidelines to ensure that the learning environment is correctly ‘tuned’ to good classroom management practice and supports remediation approaches that are based on developing phonemic awareness skills in association with instruction in orthographic awareness.

Teaching a Young Child to Read, Smethurst, W, 1998. 36-0252-01. This book presents a program designed to teach young learners to read up to the level of attaining meaningful comprehension. The author provides detailed guidelines starting with an awareness of letters and letter sounds, to developing phonics and the other skills and vocabulary to comprehend text.


Phonological Fun (Teacher Pack), Galletly, S, 2000. 63-2488-01. The Phonological Fun book provides games and activities to promote learning of pre-reading skills. It caters for and enhances the skills of advanced students and those experiencing difficulties.

Phoneme Magnets, Smart Kids. 63-3116-01. This pack contains picture magnets and the corresponding phoneme magnets. Each magnet has one of a range of coloured borders and this can assist with self correction as the red bordered picture cards would be matching with phoneme magnets with the same colour border.
This book of photocopyable activities approach alphabet and thinking learning in a wide variety of ways. The activities are designed to appeal to learners in middle and upper primary school.

Action Alphabet: Sensorimotor Activities for Groups, Sher Barbara; Kerring, K et al, 1995. 63-2982-01.
Action Alphabet is an obstacle course therapy which utilises a multisensory teaching approach to promote letter recognition and formation, and to build vocabulary. It features an oral motor, fine motor, or gross motor challenge.

Rol ‘n’ Write Alphabet. 67-0328-01.
Twenty-six formed plastic letters which can be used for tracing the letter(s) in the correct sequence for fluent writing. It is designed for use as part of a multi-sensory approach to teaching letter recognition and to develop letter formation in the correct sequence for fluency and neatness.

This photographic alphabet lotto for 1-4 players, aged 3-5 years, is designed to help teach the alphabet and letter sounds.

The Jolly Jingles big book and accompanying CD are part of the Jolly Phonics series. The jingles have been developed to provide a connected reading experience to reinforce the 42 letter sounds introduced in Jolly Phonics. The jingles combine music with a multisensory approach and can either be sung with the CD or read. See also: 63-2477-01—Video—Jolly Phonics.

Alphabetic Soundtracks, Living and Learning. 63-3085-01.
This letter sound game, suitable for ages 4-6 encourages active listening and concentration; observation and matching skills; develops sound discrimination; and introduces letter sounds.

This set of 27 alphabet sentence books has one book for each letter of the alphabet. Each page is colourfully illustrated providing visual cues to the accompanying simple sentence. The last book revises the alphabet and the blackline activity book has activities for each alphabet sentence book.

Alphabet Pack. 63-3178-01.
This multi-media alphabet kit provides a variety of ways of developing sound awareness and alphabet skills. It also assists in the discovery of letter and sound relationships and explores letter names and shapes. A wide range of learning activities include: magnetic letters; a song CDROM; finger puppets; singing alphabet cards; a book including photocopiable craft activities and ideas.

Alphabet Magnets, Smart Kids. 63-3142-01.
This pack contains picture magnets and the corresponding beginning letter/sound magnets.

Alphabet Lacing, Smart Kids. 63-3073-01.
Learners thread the laces through the cards, matching the initial sound to the correct picture. Each picture teaches a corresponding sound for each letter of the alphabet. The clear illustrations reinforce learning and it aids in developing eye-hand coordination.

Alphabet Word Inset Puzzle. 63-3173-01.
This alphabet word inset puzzle has the letters of the alphabet with a word beginning with the appropriate letter depicted on the baseboard. The inset pieces each depict a word on the baseboard and are fitted in to complete the puzzle.
RESOURCES RELATED TO ALPHABETIC PRINCIPLES

The aim of this book, one in the Belair series, is to present a balanced range of activities to develop reading skills in learners aged 4 to 7. The book is divided into three sections and the second section introduces the sound system of our alphabet—how to use knowledge of the sounds of, and within, words for reading and writing.

This book provides opportunities through a range of activities to assist in the development of letter formation and sound for symbol and symbol for sound knowledge. The book has been structured to build on four skills: identification of sounds made by symbols; identification of symbols associated with specific sounds; letter formation; letter discrimination.

RESOURCES RELATED TO FLUENCY

In this book, experts from around the world address the following question: What are the relationships among processing time, reading fluency and dyslexia? Can time and fluency-related problems be changed? How should intervention be designed to address the issue of automaticity and fluency?

This pack, containing a play and a novel, is designed for secondary age reluctant readers. The set is suitable for learners with a reading age of 6.3 to 7 years. The story lines, clear layout and controlled language level are designed to motivate and help learners to develop fluency in reading. See also: 63-3101-02 High Impact Plays 2; 63-3101-03 High Impact Plays 3; 63-3102-01 High Impact Readers.

What Really Matters for Struggling Readers, Allington, RL. 36-0228-01.
This book offers a clear blend of research and practice that teachers can use to develop better methods for helping children with reading difficulties.

Yes or No Snap, Living and Learning. 85-0518-01.
This game is designed to help increase the confidence and reading fluency of young readers with a basic sight vocabulary.

This book looks at how and why multisensory teaching methods work in any classroom and is intended to prepare educators to work with students who are having difficulty learning to read. Translating theory into practice, it offers specific teaching strategies that promote: phonological awareness; alphabet skills; spelling and grammar; reading accuracy and fluency; reading comprehension; handwriting and composition; organisation and study skills; communication and parents.

This book provides reading activities which use a multisensory approach. It is designed for students aged 6 to 12.

Everyday Sight Words 2, for students in lower primary, contains commonly-used words required to learn to read and write. The words are ones which the students' will encounter frequently in their reading and may want to use in their own writing.
Sight Words Pack 2. 63-2787-01.
This resource is a collation of materials providing literacy activities and games to rapidly improve learner’s recognition and processing of the first 100 sight words important in reading and writing. It is suitable for low progress readers across all ages. There are three Sight Words Packs and one Multimedia Pack compiled by SERU. See also: Sight Words Packs 1 and 3—63-2786-01; 63-2788-01; Sight Words Multimedia Pack—63-2789-01.

Sight Words / Multimedia Pack. 63-2789-01.
This resource is a collation of materials providing literacy activities and games to rapidly improve learner’s recognition and processing of the first 100 sight words important in reading and writing. It is suitable for low progress readers across all ages. There are three Sight Words Packs and a Multimedia Sight Word Pack compiled by SERU.

Dyslexia Speech and Language, Snowling, M; Stackhouse, J, 1996. 18-0109-01.
This book presents current ideas on the relationship between spoken and written language difficulties, and provides clinical and educational perspectives on the assessment and management of children’s reading and spelling problems.

This manual, together with the Magic Words Playing Cards, is designed to improve learners recognition and processing of the most important words in reading and writing. They assist educators and learners to integrate mastering the 100 most frequently used words as they are encountered through practical, highly focused activities.

A Box of Rimes Long Vowels, Love and Reilly, 2005. 61-0755-01.
These 50 cards are designed to provide practice in long vowel rime patterns and in decoding and spelling.
See also: 61-0756-01 A box of Rimes Short Vowels.

This pack, including a CDROM is suitable for learners requiring high interest low reading age material. The book of blackline masters provides a variety of activities relating to the novel, including crosswords, cloze passages, maze and comprehension exercises plus writing tasks and word recognition.

Cinderella Language Pack—Big Book CDROM and Puppets. 61-0705-01.
This big book, CDROM and puppet combination provides a wide range of teaching activities. The big book includes a literary section which includes a poem, diary entries, a cartoon strip, a magazine article and a report and timeline. The E-Book is an interactive, electronic version of the big book and includes a wide range of related activities.

There Was An Old Lady Who Swallowed A Fly Pack. 63-3144-01.
This pack, contains a big book, interactive book and cloth models of the old lady and the seven animals she ‘swallowed’.
Basic Vocabulary Photo Cards, Learning Resources. 61-0883-01.
This pack of double-sided photo cards support vocabulary development with real-world photographs of theme-related words. One side of each card shows the image and the word, while the reverse side shows the same image without the word.

The activities in this book are designed to stimulate learner interest in vocabulary and to encourage further reading and writing activities. It covers vocabulary building, rhyming, classifying, syllables and multiple meanings. See also: 63-3082-01 High Interest Activities—Language.

The methods described in this book are based on the belief that learners grow in their understanding of vocabulary and spelling over time as they encounter and study words in a variety of settings. The author states that Word Study has become an overarching term used to describe teaching practices related to word knowledge. Teaching this knowledge supports students as they develop fluency and understanding in their reading, as well as the ability to craft thoughtful writing.

In this literacy program the two strands integrated into Level 1 are Phonics; Word Attack; Vocabulary and Reading Comprehension. The Teacher’s Resource Guide provides an overview of the Level 1 program, along with ideas for assessing learners and implementing this approach. The self correcting answer cases provide learners with the opportunity to learn, practice and review concepts at their own pace by matching patterns. The three books in Set B cover Sounds and Letters. The two books in Set A cover Alphabet Sounds and Letters. See also: 63-3175-01 Set 1; 63-3177-01 Set C.

This book uses interactive worksheets to introduce new vocabulary words and detail how words are related. It is divided into five units: Antonyms; Synonyms; Classifying; Definitions; Absurdities. See also: 63-3118-02—Monkeying Around with Vocabulary Grades 3-5.

Vanilla Vocabulary, Bell, N; Lindamood, P, 1993. 61-0803-01.
This book for educators and parents, develops vocabulary through imagery. It consists of a dictionary of approximately 4th year through 6th year words which can be visualised and verbalised. The vignettes are designed to allow the learner to experience the words in context and offer exposure and experience with the words previously visualised and verbalised.

Vocabulary Instruction Research to Practice, Guilford Press, 2004. 36-0251-01.
This book presents research-based approaches to building learners vocabulary and promoting an appreciation of words. Researchers identify and discuss the components of effective vocabulary instruction.

Nursery Rhyme Pack 2. 61-0878-02.
This SERU collated Nursery Rhyme Pack 2 can be used for language development, perceptual development, vocabulary, story telling, sociodramatic play and drama activities. The range of materials in the pack provide a variety of ways to explore the theme either as a group or individually. See also: 61-0878-01 Nursery Rhyme Pack 1.

The 4 games in this pack, designed to strengthen skills in auditory processing, vocabulary and verbal reasoning, are for use in language development programs for learners aged from 4 to 9 years of age. See also: 61-0845-01 Try to Explain; 61-0847-01 Descriptive Language Activity Kit.
I Read It, but I Don’t Get It: Comprehension Strategies for Adolescent Readers, Tovani, 2000. 36-0247-01.
This book contains comprehension strategies for adolescent readers. The book provides practical, theory-based reading instruction and features explanations of current theories and how they might be adapted. A What Works section in each of the last seven chapters offers ideas that can be used immediately and teaching tips.

This book, which explains what comprehension means, contains comprehension strategies which have been field tested at many school levels as well as tertiary levels. It shows how to break text material, both fiction and non-fiction, into manageable chunks of information so that they are easily understood. It includes question-answer strategies; details on how to motivate learners to read and ideas for assessment.

Strategies That Work: Teaching Comprehension to Enhance Understanding, Harvey, S; Goudvis, A, 2000. 36-0242-01.
This book contains practical suggestions designed to help students think when they read. It provides more than forty preschool to year 8 lessons for understanding text. These include: Ways to use short text to teach comprehension; ideas for choosing books that promote thinking and discussion in cross curriculum suggestions; options that promote engagement and enable students to monitor their own comprehension; examples of student work, illustrations, scripts of conversations, and a complete assessment interview to demonstrate and evaluate students’ use of strategies.

Comprehension Made Easy Stage 2, Burgess, T; 1997. 63-3135-02.
This book, one in the Comprehension Made Easy series, contains thirty-three units covering the genres: narrative, report, recount, argument, discussion, play, poem and instruction. Also included are items of non-text material such as maps, charts and timetables. The questions on each topic are divided into various categories and each category addresses a particular comprehension skill.

Starting with Comprehension: Reading Strategies for the Youngest Learners, Cunningham, A; Shagoury, R, 2005. 36-0248-01.
This book details a reading program for five and six year olds based on the premise that reading begins with meaning making. Through research based principles, structured routines and innovative activities, comprehension skills are developed from beginning days at school. Emergent readers learn to present their understanding of what they read through writing, talk, movement and art.

Book A, containing blackline masters, is one in a series and is suitable for learners in Year 1. The book uses modeling, guided and independent practice and assists in teaching learners strategies they can use to develop different reading comprehension skills.

Book D, containing blackline masters, in the Catching on to Comprehension series, is suitable for learners in Year 4 and explicitly teaches key skills in comprehension such as sequencing, identifying important details or recognising the author’s voice. See also: 63-3169-01—Catching on to Comprehension Book A (suitable for Year 1).
NEW RESOURCES

This art and activities book for children aged 3 to 7 covers all seven continents and four oceans and is designed to enable children to build a wider view of the world.

This book takes the view point of learners themselves and explores how students with learning difficulties and special education needs and their classmates interact.

This book describes and illustrates how written communication can appear to someone with dyslexia and how their efforts to communicate in this way can appear to others.

*Music Magic* is a music teaching resource for learners aged 3-6. The program focuses on the fundamental musical concepts, including stopping and starting, sound texture, beat, tempo, dynamic, pitch and rhythm. The concepts are explored through musical play involving games, singing, movement play and improvising on instruments.

The Reinforcing Science series, containing blackline masters, has been developed for learners who have special learning needs, in particular reading and organisational difficulties. The science concepts explored in the series are intended to build on prior knowledge and link into relevant, everyday contexts. Contents include: Insulators and Conductors; The Water Cycle; Sieving and Dissolving; Filtering and Evaporating.

This book provides educators with an adaptable model in which to set up either whole-school or departmental peer support networks. Each section provides activities which promote the notions of peer support and teamwork for building on the existing skills and expertise of educators.

This book presents an approach, the Supportive Play Model (SPM), to early childhood intervention that emphasises emotional and self development in a family focused format. Its underlying principles include a belief in the centrality of play as a means through which development is enhanced.

**Turn and Learn**. 64-1389-01.
The *Turn and Learn Number Board* has rotating numeral squares each depicting a number from 0 to 120. The accompanying book provides a wide range of activities to use with the board.

**Four Seasons Jigsaw Puzzle**, Joyland Pty Ltd. 83-1586-01.
This interlocking jigsaw puzzle depicts young people involved in different activities throughout the four seasons of the year—Summer, Autumn, Winter, Spring.

**Maths Rescue Series Book 3**, Tasker, Sandy, 2003. 64-1395-03.
This is Book 3 Number: Number—Applications in the series Math Rescue designed for upper primary level students with learning difficulties. The books in the series focus on reinforcing the basics in maths, as well as providing activities aimed at developing understanding of mathematics concepts. See also: Book 1 Number—Written Calculations.
NEW RESOURCES

This Food and Recipe Pack, collated for learners in the Early Years, can assist with skills of play, classification, sorting, visual discrimination, matching, basic concepts, counting, sociodramatic play, creativity, fine motor and expressive receptive language development. The range of materials in the pack provide a variety of ways to explore the theme either as a group or individually.

This book is designed to help young people aged 8 to 14 understand the social implications of neglecting personal hygiene. It includes quizzes, activities, hands-on activities and a set of worksheets.

This book, written for educators working with learners aged 4 to 10 aims to provide guidelines for identifying learners who have speech and language difficulties. It provides advice and strategies and incorporates the Afasic Checklists.

Octopus memory Game, Edu Fun. 82-0586-01.
This manipulative memory game can also be used to develop visual discrimination, matching, colour, fine motor and vocabulary skills.

This multi media alphabet kit provides a variety of ways of developing sound awareness and alphabet skills. It also assists in the discovery of letter and sound relationships and explores letter names and shapes. A wide range of learning activities include: magnetic letters; a song CDROM; finger puppets; singing alphabet cards; and a book including photocopiable craft activities and ideas.

Reading Under the Covers—Helping Children to Choose Books, PETA, 2008. 36-0258-01.
This book explains what children look for in a book, and which books they choose. It contains interviews with the authors and illustrators of books that children have chosen in Australia-wide competitions.

This book provides information for educators to assist in the support of learners with speech and language difficulties. Contents include: Attention, listening and memory skills; Listening skills; Phonological awareness; Comprehension of language (understanding); Expressive language (spoken); Social communication difficulties in children; The development of speech.

In this book the author discusses the importance of active, multi-sensory experiences and provides a wide range of activities designed to provide these experiences for learners aged three to seven.

This book offers an explanation of attachment theory and explains how security, autonomy and resilience in young children can be promoted in early years settings through an understanding of attachment principles.
NEW RESOURCES

This book provides a framework of language and language related skills for adolescent and pre-adolescent intellectually disabled students who are potential candidates for vocational training. The content is divided into five modules: Social communication routines; Identification information; Basic language skills; Language related concepts; Cognitive components.

This guide for professionals working with deaf learners and their families, draws on the latest evidence to explain the impact of hearing impairment and uses case studies to focus on the key issues for assessment and intervention.

This book is designed to assist educators to implement social skills programs for learners displaying noncompliant and aggressive behaviours who need to develop self-management, academic and social skills.

Lacing Copy Cards, Educational Colours. 82-0572-01.
Each of these colourful hard plastic threading cards have a threading pattern to copy on one side and blank spaces on the other side to create individual patterns.

The Child-Initiated Pretend Play Assessment (ChiPPA), suitable for learners aged from 3 to 7 years, is a norm-referenced standardised assessment of a child’s imaginative or pretend play skills. It evaluates imaginative actions, number of imitative actions and number of object substitutions. It is an individualised assessment that takes 30 minutes to administer and score.

This book and CD contains music, songs and suggestions for the accompanying activities. It aims to promote: social interaction; concentration and attention skills; improved coordination; confidence and self esteem; body awareness and image; communication skills; verbal development; understanding of a variety of concepts; expression of feelings; listening skills.

The Sixth Sense ll. 19-0208-01.
This book contains the Sixth Sense lesson plan which shares accurate information about autism spectrum disorder with learners aged 7-12. Using the 5 senses as a frame of reference, the lesson introduces learners to their six—or social—sense through these activities and discussion.

Fractions Game, Modern Teaching Aids. 64-1488-01.
This fractions game, suitable for 2 to 6 players aged 10-12, is designed to assist in the development of the ability to convert graphic representations of fractions to simple fractions, decimal fractions and percentages.

Deadly Talking Resource Kit, Qld Gov, 2002. 61-0886-01.
This DVD contains early intervention ideas designed to promote listening, language and pre-literacy skills amongst Aboriginal and Torres Strait Islander preschool children. The accompanying activity pages contain the lesson plans that make up this whole class language approach.

In this book, Adam, a young boy with Asperger Syndrome (AS), invites young readers aged between 7 and 15 to learn about AS from his perspective.
Making a Difference
5th Annual Special Education Expo—
7-9 July 2008
Education Development Centre—
Hindmarsh

The Special Education Expo is a major initiative of the Department of Education and Children’s Services (DECS). It provides workshop presentations and displays to support the education of children and students with learning difficulties and disabilities.

Educators, parents, education support staff and/or support professionals from government and non-government organization will be attending and/or providing workshops and presentations.

Enquiries: DECS—Learning Difficulties Support Team—Telephone: 08 8226 1769


The workshops will:
• Show case good practice in supporting diversity
• Present new initiatives or inquiry research findings
• Highlight programs and projects to make a difference in promoting successful learning outcomes for all.

The 2008 Expo will focus on:
• Inclusive Technologies (IT)
• Communication (C)
• Behaviour (B)
• Well Being (W)
• Disability (D)
• Pathways / Transition (PT)

Assistive Technology: Creating Value Through Participation
Australian Rehabilitation & Assistive Technology Association National Conference

Monday 22-Wednesday 24 September 2008, Adelaide Convention Centre, SA

ARATA’s biennial conference provides a forum for exploring issues in and the value of assistive technology for people with disabilities and the ageing.

The conference will focus on enhancing and recognising the value of participation, through technology, of people with disabilities and those who are ageing. In keeping with world trends, all aspects of human activity will be considered - home, education, work and leisure. Participants will be able to experience the creativity that is possible through the effective use of technology. The experience of older people and those with disabilities themselves will be a valuable part of this event.

ARATA recognises several unique areas of assistive technology that contribute to inclusion and participation.
• Augmentative & Alternative Communication
• Computer & Environmental Control Systems
  • Human Perspectives of Technology
• Manufacturer & Supply of Communication/ Computer Assistive Technology
• Service Delivery & Government Policy
  • Wheeled Mobility & Seating

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