

How might stage models of reading development be helpful in the classroom?

Over the years a number of researchers have developed models of reading development based on stages. Are they worth knowing about? Is the attainment of literacy somehow dependent upon successful negotiation of these stages? Alternatively, might it be that an interest in stages merely reflects a kind of educational voyeurism with no implications for practice?

Although variations occur among writers, there is increasing general acceptance that the sequence of development of the word identification system moves from logographic to alphabetic to orthographic. It should not be assumed that these stages are rigid dichotomies. They may be fluid – a new stage only achieved temporarily. They may be hard won or achieved rapidly and effortlessly. Some students reach school already at the alphabetic stage. A student's reading difficulty however may be understood through a consideration of his stalled status within the reading stage hierarchy, and action may be initiated to provide an appropriate remedy based upon enhancing the likelihood of movement to the next stage.

In the first logographic stage, the child begins to recognise signs by attending to extraneous cues such as colour, size, location, and accompanying logos – such as Ronald McDonald. When they begin to attend to the word, the young reader begins to recognise some visual patterns by their shape (a landscape of squiggles). The shape is recognised largely as a whole, and significant alterations to the letter structure may be made without altering the child's response (e.g., a change in the McDonalds' sign to McPomalds is unnoticed).

In some students unawareness of the alphabetic nature of our written language can be gauged by their attention to inappropriate cues, such as assuming that word length must be related to an object's size. Using this guide one can recognise which of two given words must represent "elephant" and which must be "bee". Alternatively, the solution to word identification difficulty may be sought in extraneous visual cues within a word's structure, such as the "g" in "dog" being interpreted as a tail, or the "oo" in "look" interpreted as eyes. Even though these strategies are moribund, their use nevertheless represents an advance over the earlier purely logographic recognition strategy. It is a more analytic approach – attention being paid to word sub-parts, though the attention is not alphabetic in nature nor (as yet) is it directed to the word sub-parts' position within the word. Systematic teachers will recognise the semantic strategy and demonstrate to students its lack of utility. Alertness to a student's lack of alphabetic awareness when the teacher substitutes similar looking but semantically different words (e.g., "log" for "dog", "book" for "look") is a means of detecting when such a non-alphabetic strategy is in use. Of course, some teachers are driven by the belief that students should rely primarily upon prediction strategies. They are less likely to be concerned about the non-alphabetic strategy in use, and more likely to implore the student to pay more attention to the meaning-providing picture that accompanies the text.

The child has not learned to analyse the written word structure, and nor would it be necessary if our written language were logographic, as is Chinese. It is alphabetic, and contains far too many words to be recognised by the visual pattern of peaks and troughs, whirls and intersections that comprise written English. The movement to the alphabetic stage is probably provoked by the gradual awareness of speech segmentation that the child induces or is taught. Phoneme awareness may more readily be established in children whose earlier experiences have included a focus on the structure of the spoken word, even if in larger units such as rhymes and syllables. Some children arrive at school quite alert to the sounds in words, whilst others do not develop this awareness unaided - and without assistance may remain at the logographic stage - reliant on memory of the letter landscapes, supplemented with contextual guessing strategies. Such readers are doomed - as eventually (usually in middle to upper primary school) the demands on visual memory of a rapidly increasing vocabulary become overwhelming - a challenge that has been described as an orthographic avalanche.

The very purpose of an alphabetic written language is to enable the visual representation of all of a culture's oral language in a structure that is decodable by almost all of its citizens. Written Chinese comprises about 40,000 logograms, yet Chinese adults are said to have a working familiarity with only about 4000-5000 of them. This number presumably approaches the limits of visual memory for shapes. By contrast, the average Year 6 student is able to read 50,000 English words, because the written form is composed of a relatively

small number of working parts. The number of working parts does not overwhelm the memory as long as the alphabetic principle underpinning the construction of the written language is understood, and learners do not attempt to recognise words by virtue of its shape.

In the early alphabetic stage, simple letter pattern-to-sound conversion begins to provide a means of decoding unknown words, though the process is laborious. Initially, this may involve use of only partial letter-sound cues often accompanied by attention to other cues such as provided by pictures. So a student aware of the correspondence between the letter “d” and the sound /d/ is more likely to pronounce the written word “dog” as “dog” than as “puppy”, particularly when a picture would allow for either response.

With the arrival of alphabetic insight, this decoding strategy becomes reliable, at least with regular words. Success is more likely when teachers ensure that students are not flooded with inconsiderate (authentic) text. The sounding-out strategy is a prerequisite for skilled reading, but is not of itself skilled reading. When authentic text is the major source of reading material students are likely to become confused by the range of irregular words, and attracted towards a faster if unreliable guessing approach. For that reason, controlled vocabulary text is a useful vehicle for teachers wishing to ensure students successfully negotiate this stage.

Of course decoding strategies continue to provide some clues for irregular words. In such words, it is vowels that provide the quality of irregularity, but consonants remain regular for the most part, and it is the consonants that are most important in word recognition. Hence, the phonological recoding strategy enables cues for decoding most words along the regular-irregular continuum.

It would not be possible to explain skilled reading in terms of such a slow fragmented system of decoding words letter by letter. The next level involves the recognition of parts of words. Reading individual words becomes faster as groups of letters are recognised as single units, thereby reducing the sounding-out and blending demands. It also enables the further regularisation of our eclectic language, because many of these word parts have similar pronunciation across a wide range of words (e.g., “igh”). Since many different words share similar spelling patterns, practice on any one word may simultaneously enhance the recognition of other similar words. The facility, known as decoding-by-analogy, helps explain the capacity of avid readers to develop a large reading vocabulary very quickly.

There are far too many words in our written language to be learned through direct teaching, and at some point it is necessary for students to realise their capacity to teach themselves the pronunciations of new words. The alphabetic period is crucial for the rise of self-teaching, as students begin to appreciate that every time they decode an unfamiliar word it subsequently becomes easier and faster to do so. In fact, this practice enables them to become adept at storing letter-patterns – orthographic information that dramatically hastens word recognition.

This gradual lexicalization occurs through repeated opportunities to use letter-sound correspondences for decoding. The original decoding strategy is used with less frequency as the range of familiar word patterns increases through this self-teaching mechanism. The phonological recoding strategy remains useful for decoding unfamiliar words - and our language has many low frequency words. Eighty percent of English words have a frequency of less than one in a million. Thus, the phonological recoding mechanism has a usefulness that survives beyond its initial ability to provide the opportunities for the formation of orthographic representations. Even in adults, this ability to decode unfamiliar words is a hallmark of skilled reading, and continues to be of significance. One example of its value occurs when individuals are faced with a new technical vocabulary related to their occupation or interests. Even bright well-compensated adults with dyslexia (whose primary difficulty is in decoding) find it distressing that they need to laboriously remember word shapes, constantly battle with new words, and have very little idea how to spell.

The sought-after orthographic strategies can only be developed through multiple examples of success in decoding phonologically. This implies that whole-word recognition should not be the major strategy in literacy teaching programs, and the instructional emphasis even for older students must still be on ensuring letter-sound correspondences, blending, segmenting, and adequate practice. It appears also that only through

such laborious letter-by-letter decoding can precise letter-order become entrenched in the orthographic representation that forms the basis for accurate and fluent reading. For older struggling readers, it can be difficult persuading students to discard their existing focus on context-and-initial-letters in favour of careful attention to all the letters and their positions in words. It usually involves a temporary slowing of the students' reading rate - a price that some students are loathe to pay. Persuasion can be achieved however, and the price (intensive daily practice over a period of a year or more) is usually considered worthwhile by the students when they begin to appreciate that reading can be enjoyable and meaningful.

The crawling-before-walking dictum can be bemusing to those who consider that beginners should be encouraged to read in the way that skilled readers do. However, and analogous to many other life skills, to ensure that students develop instantaneous word recognition, teachers must first emphasise the minutiae of decoding, and ensure that all students obtain their requisite levels of practice to enable the achievement of that most important quality, automaticity. Automaticity is a state of skill development in which tasks that formerly required concentration to complete competently, having been practised to the point of over-learning, are now able to be completed without conscious attention.

All readers have a limited amount of attentional capacity to devote to the reading task. If the basic process of extracting the words from the page is laboured, readers will lose track of what has already been read and be unable to follow a story's sequence. They will also remain essentially passive during the reading task, not able to bring their own experiences to bear on the all-important meaning-making process. Their comprehension is doubly hindered. Sometimes these struggling readers are exhorted to pay more attention to meaning than to the words in front of them - a cruel if unintended diversion away from the problem source. With automaticity, all available attention can be directed to the meaning-making task, because the low-level decoding process is effortless.

Some readers require only a single decoding of a word to recognise it subsequently very quickly. Although some mistakes are likely to occur, there will be a noticeable and rapid diminution in frequency. Students vary in the ease with which this process occurs. Some students may require more than 20 such decoding opportunities. Hence the importance of providing adequate practice for all students rather than simply providing a set amount of time within which all students obtain practice. In this allocated-time model, the more adept students obtain far more practice than the needy, further widening the competency discrepancy. Additionally, the text provided for each of the students needs to be at their independent reading level, and has vocabulary relevant to the decoding operations currently being addressed. Some readers require a stimulus to increase their reading speed and regularly scheduled timed reading can be invaluable in ensuring reading speed and accuracy are optimal for comprehension.

Morphemic sources of information are also useful in coping with the challenges caused by to the different (and sometimes contradictory) spelling conventions of English' parent languages. Given that more than half the words in English are derived from Greek or Latin, then much benefit in reading fluency, comprehension, and spelling can be gained from a systematic study of prefixes, suffixes and root words.

It is during the stage of automaticity that the apparent magic of skilled reading becomes evident – whole words are recognised as quickly as are individual letters. The actual process of reading, of transforming squiggles into language, appears transparent – that is, the words seem to leap off the page and into consciousness without any noticeable effort or strategy. There is no further need for the slow, unreliable process of prediction based upon context, followed by confirmation. Though it may be of value in understanding the meaning of a new word, it is discarded by competent readers as a strategy for obtaining the pronunciation of words.

Isn't skilled performance a wondrous thing? Wouldn't it be wonderful if our brains were already wired for reading, so that teachers could simply evoke from students an existing but unexpressed reading talent (as was speech so evoked)? But really is there any area of skilled performance at a man-made task that does not require real dedication and serious practice from learners? The moral is that there is no fast and dirty way of avoiding the sounding-out strategy. Any such avoidance will divert students into a reading cul-de-sac, leaving

them doomed to rely upon their memory for overall shape rather than for letter position, to look for pictures, or to second-guess the authors, and to be forever battling with novel and technical words throughout their adult life.

This is not the end of the story however – comprehension strategies become of greater significance with the increasingly demanding texts students are required to read. Without the capacity for rapid context-free decoding, reading comprehension advances are unlikely to occur. When this stage of automaticity has been achieved, students are at least able to employ in the reading task those oral language comprehension skills they have developed thus far. In the earlier stages, their oral comprehension far exceeded their reading comprehension because of the decoding constraints. Their comprehension skills will have continued to develop if teachers have incorporated plenty of oral language activities into their program.

Of course, as the volume and complexity of reading in which they are engaged increases so, one hopes, does the sophistication of their reading comprehension strategies. This process is not guaranteed however. For some students with earlier decoding problems their reduced exposure to text has hampered their overall reading progress and leaves lingering hurdles, such as vocabulary gaps or even chasms. Other students may be capable enough readers, but choose to engage in reading as little as possible, and so their development stalls. A further group may have significantly delayed language development and so their comprehension of what they read, though consistent with their oral language capacity, is inadequate for their understanding of age appropriate text.

Knowledge about the teaching of comprehension is less well advanced than it is for the lower order decoding processes. It is known that passive reading is not consistent with adequate comprehension, and that when teachers model their own active comprehension processes for their students, and provide encouragement, guidance and regular practice opportunities - then students make superior progress than when teachers assume that such processes will develop naturally. Some of the techniques that show promise in enhancing comprehension include learning how to monitor and query one's own comprehension, to organise the text information in a meaningful manner, or employ visualisation techniques. A task once common in schools was the production of a précis – a summary of what has just been read. The strategies involved, and the active processing of information required in précis production has also been shown to improve comprehension.

What then is the value of considering stages? It is increasingly recognised that not all students require the same level or kind of instruction. Given the number of students who struggle with mastering reading, efficiency in the provision of initial teaching and subsequent support becomes very important for education systems. Consideration of stages can assist in ensuring each of the students in our charge receives the assistance appropriate to their needs, and the costs of providing optimum support can be contained. Such consideration also reduces the likelihood of overlooking students in difficulty or to waste students' time with tasks at which they are already adept.