

Decoding's Role in Reading Fluency and Comprehension

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Abstract

The article begins with stressing the importance of decoding and explains how it was taught and is taught today. It then proceeds to explain reading fluency and the role decoding plays in improving decoding fluency. It then proceeds to trace how reading fluency is sandwiched between decoding and comprehension and is crucial to the bottom-up and top-down process of the skill of reading. Lastly, it investigates if the decoding process is different for L1 and L2 learners of English.

Keywords: *Analogy phonics - teaching students unfamiliar words by analogy to known words, Decoding - translating a printed word into a sound, Phonics – correlating sounds with symbols/letters and patterns in an alphabetic writing system, Reading Fluency – speed of reading, Word identification - accuracy of decoding, L1 – a person's native language, L 2 – a person's target language*

Decoding has been recognized as an important skill that children at the primary stage need to acquire. Decoding is, in fact, the first step in reading for we cannot read if we cannot recognize the written word (Nutall, 2). Mayer is of the opinion that “fostering skill in decoding is at the centre of early reading instruction and represents one of the goals of academic instruction in the primary grades” (49). Beck and Juel quote several researches to show that early decoding skill proficiency influences reading comprehension positively. Torgesen and Hudson identify decoding fluency which is speed of decoding in reading unknown words as one of the main factors that most strongly affect weak readers' oral reading rate (6). In fact early decoding skill “leads to wider reading habits both in and out of school ... provides opportunities to grow in vocabulary, concepts and knowledge of how a text is written” (2). On the contrary, slow readers do not show much interest in reading since reading is construed to be a laborious task for them, so they read very little and remain as slow readers (Nutall, 2).

The process of decoding includes both the skills of ‘word recognition’ and ‘word attack’. In ‘word recognition’, the reader applies unconsciously and spontaneously the knowledge of the code i.e. associating letter/syllables with their sounds. On the other hand, ‘word attack’ involves conscious and deliberate application of their knowledge of the code to produce the desired sound or pronounce new words (Beck and Juel, 2). ‘Word recognition’ is possible for

children who are native speakers of English and non-native readers whose decoding skills are good. ‘Word attack’ would be the skill that students with low decoding ability employ especially non-native children of English and students with dyslexia.

Decoding has been taught both consciously and unconsciously using different approaches over the years. In the past, the letters and their corresponding sounds and their combination in words were taught using verbal drills. For example, to get the sound of the letter /b/ when it combines with the vowels i, e or o, students repeated words starting with ‘b’ like bell, boy, bike bin etc. This method turned out to be cumbersome and boring for children since it was not a meaningful learning activity for students. This method of letters and sounds was replaced by the more meaningful ‘whole word’ or ‘sight word’ method wherein the whole word is introduced. Students identified sound with the words displayed.

The rationale for this approach to decoding is twofold. First, in real language situations, a letter sound blends with one or more letter sounds to form meaningful sounds and never in isolation. Second, words provide meaning, and learning to read always needs a meaningful context, a word being that basic meaningful context. Steinberg and Sciarini quote several researches to conclude that the whole word strategy works better because children have the ability to learn letter-sound code through induction from words (69). In addition, words are learnt faster than letters

and sounds of letters blend or merge to make a word. The 'whole word' strategy can be taught using explicit phonics or implicit phonics. "In explicit phonics, children are directly told the sounds of individual letters in a word", whereas "in implicit phonics children are expected to induce the sounds that correspond to letters from accumulated auditory and visual exposure to words containing those words" (Beck and Juel, 6).

Reading, along with writing, is a literacy skill and plays an important functional role in higher education and in the work place. At this juncture it is appropriate to clearly state what reading fluency is and how the variable of decoding helps in fluency which in turn is one of the most important variable that leads to reading comprehension.

Perfetti describes reading as "a higher level mental activity in which print plays a role" (40). Cooper et al consider reading fluency to be multi-dimensional that

"requires processing information in the visual and auditory modalities and relies on word recognition skills such as phonological and orthographic decoding. Therefore, it is believed that the speed of processing of some subset of the above sub-processes affects word-reading rate" (13).

Cooper et al conclude that the basic element of this multi-dimensional process of reading fluency is decoding.

Having arrived at the position of importance of decoding in reading fluency, it is essential that one needs to arrive at what is reading fluency all about. Oral reading fluency can be defined as reading with accuracy (which implies decoding words correctly) and with speed and expression. Pikulski and Chard define reading fluency as

"... rapid, efficient, accurate word recognition skills that permit a reader to construct the meaning of text. Fluency is also manifested in accurate, rapid, expressive oral reading and is applied during, and makes possible silent reading comprehension (n.p.)."

Concluding their study, Pikulski and Chard reiterate that decoding is the most important skill for reading fluency and it an important component of reading skill, its ultimate goal being reading comprehension.

As reading comprehension is defined as the goal, one needs to define what reading comprehension is all about. According to Landi reading comprehension is "a complex process that requires the coordination of bottom-up word

level skills and top-down meaning processing skills" (1). Landi explains that the bottom-up word level skills involve phonemic awareness, phonics and word recognition which are integral to reading comprehension and they constitute decoding. For Landi, the top-down meaning processing skills involve chunking or prosody (grouping words into meaningful chunks, reading with right tone and expression), sentence and text comprehension, schema (previous experience and organised mental knowledge) and non-verbal IQ.

Reading fluency is that part of the process in reading comprehension that bridges the bottom-up and top-down process in as much reading fluency by itself does not lead to comprehension but acts as the ladder for top-down processes which enable comprehension. Sadoski and McTigue proposal of the Dual Coding Theoretical Model of Decoding as a unitary model of reading comprehension which is not limited to the bottom-up processes but includes the top-down processes or higher order processes of text comprehension further strengthens this notion of reading fluency as a bridge. In other words, bottom-up processes create Logogens, i.e., images associated with constant repetition of sight words, and top-down processes create Imagens, i.e., mental images or non-verbal codes created through episodic and procedural memories which play an important role in reading comprehension (489, 490). In addition, their research proved that the concreteness of words as opposed to abstract words are recalled and associated better and hence passages with concrete words will be understood better (491).

In "Understanding the EFL Reading Process", Maan supports the interactive models as opposed to the linear processing models. The interactive models propose reading as "both bottom-up and top-down processes (that) operate simultaneously or alternately and influence each other" (6). The reader's mind works on letters, structure, orthographic, lexical, syntactic and semantic associations and pieces of information simultaneously, moving from the bottom-up to top-down process of reading and vice versa to negotiate meaning using the scheme of knowledge representation in the mind (10). She adds that background knowledge of unfamiliar culture helps foreign readers comprehend better than a mere introduction of vocabulary

(15). Advanced non-native speakers have the advantage of efficient and interactive reading because they manage to strike a balance between top-down and bottom-up processing (15). These theories of reading indirectly emphasize the importance of the skill of decoding in the bottom-up process. It is pertinent to note that it is the inability to decode with ease that slows down and at times stops the process of reading.

A final word on the importance of decoding skills in reading fluency and comprehension is provided by the Automaticity Theory which proposes that the brain can only focus on any one activity at a time. Therefore, for two activities to take place at the same time, one activity should have become automatic i.e. it has been learnt so well that the brain need not spend energy on it. When applied to the context of reading comprehension, it can be fairly ascertained that the brain can only focus on either decoding the text or comprehending the text. Inferring from the above, it can be derived that in the case of poor decoders, the brain's energy is used more for processing words than comprehending meaning from the text. It is precisely then that they fail to comprehend what they read. Therefore, Pikulski and Chard conclude that "For readers who must alternate between attending to decoding of words and the construction of meaning, reading is slow, laborious, inefficient, ineffective, and often punishing process" (n.p.). They further elicit the opinion that although fluency may not ensure good reading comprehension, it is absolutely necessary for comprehension. Furthermore, they extend the role of fluency by stating that

"While fluency is most obviously reflected in oral reading, it more importantly operates in silent reading as well. If a reader has not developed fluency, the process of decoding words drains attention, and insufficient attention is available for constructing the meaning of texts" (n.p.).

However, if one is to construe that reading is a mechanical process, Perfetti counters with the argument that it is a cognitive process as decoding of the text is a process where in the printed text is decoded to language and not just the sounds the texts represent (41). He concludes that "only a reader with skilled decoding processes can be expected to have comprehension processes" (43). For a reader with excellent decoding

skills, reading becomes almost a mechanical and automatic process and can lead to better comprehension.

The issue of decoding in learners of English as L2 raises the question whether L1 or the native language of the learner plays a role in the acquisition of English. Esther Geva, in her article "Learning to Read in a Second Language: Research, Implications, and Recommendations for Services", refers to two primary theoretical frameworks that inform this issue. The first is "universal" or "central processing" framework which echoes Noam Chomsky's concept of Universal Grammar.

According to this framework, the same underlying cognitive and linguistic component skills that are crucial for learning to read and spell in monolingual or L1 children (for example, phonemic awareness, speed of processing, visual processes) contribute across diverse languages and writing systems. This also means that these skills influence the development of literacy skills in L2 and bilingual contexts (2).

Therefore, we can conclude that there is transference of these skills from L1 to L2 and L1 assists in learning L2.

The second contrary framework bases itself on *typological* differences. There are differences in the learning processes of reading and spelling, in orthography "or the regularity of correspondence between letters or letter combinations and their associated sounds" (2). She quotes the example of Chinese which is a character based system. A student with Chinese as L1 would have difficulties in learning English as L2 because it has an alphabetic system. What can be concluded is that while the L1 of a learner can help him or her to learn English as the cognitive processes are similar, typological differences can present difficulties for learners of English as L2.

Another factor to be considered is age. Ryan and Singleton have compiled researches about age factor in learning a second language. The researches suggest that those who learn English as L2 in childhood usually achieve higher levels of proficiency in the target language which is English. These learners undergo a learning process which broadly follows L1 learning patterns. Proficiency in L2 is also dependent on how long one has been exposed to it. Though not conclusively proven, they also suggest from researches that older learners of L2 have less efficiency in the phonetic and phonological aspect of the language

while they are no less than younger L2 learners in the semantic aspect of a reading text.

Pae's study of relationship between reading and writing of upper middle school students whose first language is Korean and second language is English using path analysis is revealing. The results show that students L1 ability is related to L2 ability in both reading and writing. In addition, there was evidence that L1 reading was related to L2 writing. However, L2 proficiency resulted in better L2 reading and writing skills (34).

Pey et al quote Lems' research to show another significant difference in decoding between L1 and L2 learners. L1 students decode with meaning drawing from their oral word bank while L2 learners do not necessarily understand what they decode (qtd. In Peys et al., 20). Yet another reason attributed to the difficulty for L2 learners is due to the difference in phonic regularity in languages. Nutall feels that this is especially true of those whose first language has very good phonic regularity and their target language has phonic irregularity especially in English since it has phonic irregularity (2). For the adult learners who have been exposed to phonic regularity, adjusting to this irregularity in English is difficult. Omani students' L1 is Arabic which has great phonic regularity and hence they find English phonetics rather difficult to master.

While decoding is initially about recognising sounds that a word indicates than attributing meaning, decoding is effective when L2 learners can connect what they hear with the words they can see in a text. However, any text is functional in nature and has potential for meaning, and Eggins articulates it thus: "... the general function of a language is a semantic one" (3). Decoding should help students to move from deciphering the text to recognising meaning in the text (Ur, 141). Using linguistic and schematic knowledge, the reader establishes a connection between what he reads and the meaning behind the sounds that he decodes (Wallace,).

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