

ReadingFish

An Integrated Approach to Comprehension Remediation Lloyd Lamouria

For at least thirty-five years, researchers have been examining reading and listening comprehension. This research has advanced our understanding of the complexity of the process and the efficacy of different approaches. This research has targeted various aspects of comprehension remediation and training. The early research included behavioral (positive reinforcement) and basic skill instruction (vocabulary instruction and corrective feedback to text interpretation.) Following studies looked at improvements in comprehension as a result of decoding and fluency instruction, as well as the effect of text enhancement (inclusion of visuals, highlighting of text), repeated readings, imagery, spatial organizers, strategy instruction and self-monitoring. (Carlisle & Rice, 2002)

While most of the studied approaches yielded at least modest gains in reading comprehension, several were significantly more successful than others. In response to these research studies, a number of comprehension programs were created that structured and expanded on individual approaches that had been studied and deemed successful.

Recent meta-analysis techniques have refined our understanding of what works best. (Mastropieri & Scruggs, 1997) By looking at a large number of the studies, researchers were able to come to conclusions about the types of comprehension instruction that are truly effective. Remediation practices are classed as (a) skills training, (b) text enhancement, and (c) self-monitoring and questioning strategies. (Carlisle and Rice, 2002)

What is involved in reading comprehension?

First and foremost, an individual needs to accurately decode the words on the page. This process is the single biggest contributor to accurate reading comprehension.

The second biggest influence on comprehension is reading fluency. Fluency is critical because poor readers must invest so much mental energy and attention into the decoding process that it hinders the amount of attention and mental processing power available for comprehension. For good readers, the decoding process is so automatic that most of their mental activity can be directed at understanding the text. Another critical aspect of fluency is practice at reading. Compared to a poor reader the fluent decoder reads up to ten times the number of words per year. (Nagy and Anderson, 1984) More exposure and practice with text equates to a better understanding of text structures and an expanded vocabulary, both of which improve comprehension.

What can be done when the individual reads the words at grade level, but still has problems with comprehension?

For this we need to address the cognitive skills that facilitate comprehension. Fundamental to good comprehension is the awareness that it is an active process that must be monitored. (Malone and Mastropieri 1992) Just because one is listening or reading does not mean that the information will be comprehended or moved into long-term memory. We have all had moments where we suddenly realized that we did not understand what was just read or heard. Self-monitoring for comprehension is a skill that teachers assume is in place for a good reader (decoder,) but it is often a difficult or missing process for the poor comprehender.

Working memory is critical to understanding individual sentences that are longer in length, have a more complex structure, or that are dense in meaning. (Daneman and Carpenter 1980) Working memory is also critical to understanding the different elements involved in a paragraph to derive meaning. Keeping track of the characters, details, actions and locations involved in a story place a heavy burden on working memory.

Research strongly supports the theory that short-term and working memory both include auditory (linguistic) and visual information that are stored separately and that are coordinated by an executive function. (Braddeley & Hitch, 1974) Research has also made a strong case for the need to code information into both the auditory and visual subsystems at the same time. (J.M. Clark and Pavio, 1987) Creating visual imagery involves coding information into the visualspatial subsystem. If this visual imagery is not coded accurately and completely, or is not linked well to the linguistic information, comprehension suffers. Prior to moving information into long-term memory, information needs to be processed by short-term and working memory.

Reading strategies are also important to reading comprehension. For example, different types of text, fiction vs. nonfiction and expository vs. narrative require different approaches to effectively understand the meaning. Keeping track of a large number of characters in a novel or deciphering a science textbook will require different, conscious strategies on the part of the reader. An individual that is competent with using multiple strategies is able to adjust to the demands of the text and always apply an effective approach.

What has been done in the past to improve reading comprehension?

1. Strategy Instruction: This is where most schools start when trying to improve comprehension. It can be effective if the individual does not have difficulties with working memory, visual imagery skills or vocabulary. Our clinical experience finds that strategy instruction is most effective for individuals with average to above average vocabulary skills and no difficulty with auditory comprehension.

2. Visual Imagery Training: Some programs are effective at improving comprehension through extensive training in visual imagery skills. The approach requires a substantial number of hours of instruction and it is difficult to maintain student interest. Individuals with significant language processing problems appear to benefit most from this approach.
3. Cognitive Skills Training: This approach consists of isolated training for attention, working memory and visualization skills. Gains are highly variable when looking for far transfer to reading comprehension since there is no practice or direct instructional link made with reading. Individuals with identified weakness in these specific areas would benefit most from this approach.

What happens when you combine the comprehension improvement practices identified as most effective into a cohesive, structured program, and administer the program intensely?

ReadingFish® —An Integrated Approach

ReadingFish® is effective because it integrates and sequentially develops three types of remediation practice identified as effective at improving reading comprehension. ReadingFish® includes:

- A highly structured ‘visual imagery’ program
- ‘Cognitive skills training’ designed to improve working memory, attention, sequencing and visualization skills
- Instruction and practice using effective ‘reading comprehension strategies’

ReadingFish® is effective because it employs research-based teaching techniques. These include multi-sensory instruction techniques and scaffolded, direct instruction. The way information is introduced, developed, reinforced and practiced is based upon years of independent research and classroom verification. (Duke and Pearson, 2002)

ReadingFish® is effective because it is administered one-to-one. No instructional method is more effective than one instructor adjusting the material and methods to the needs of one student.

ReadingFish® is effective because it has been developed and refined in a clinical setting using independent research. Years of experience involving multiple clinicians and a variety of students with a wide range of needs have helped shape ReadingFish into a highly effective program.

ReadingFish® is effective because standardized testing is administered prior to beginning the program to ensure that ReadingFish is appropriate for the student’s needs. Upon completion of the program, testing is administered to quantify the results for the student.

In our clinic, we have demonstrated an average of three-years gain in reading comprehension after thirty-five hours of instruction. To our knowledge, no other program has documented this level of improvement in so short a period of time.

References

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