

PACE vs Fast ForWord...

*an introduction to the strengths and differences
between these two processing programs*

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When children with at least average intellectual ability struggle to learn, even with adequate instruction, there is likely something in the way that they are processing information that is very different or inefficient.

At the Learning Center, we recognize that if we are going to effectively impact academic learning problems, we must prepare the brain for learning by strengthening or developing the underlying thinking processes that support academic skills.

Two programs that we have found to be very effective in developing processing skills are PACE (Processing and Cognitive Enhancement) and Fast ForWord. As these programs are becoming increasingly sought after, many people are asking about the differences between the two.

PACE, researched and developed by Growth Strategies, Inc., has been described as "mental boot camp." It trains cognitive processing skills that directly affect academic learning. These skills include:

- Attention (the ability to stay on task even when distractions are present)
- Simultaneous Processing (the ability to handle more than one thing at a time, to see the whole or "gestalt")
- Sequential Processing (the ability to learn step by step, linking a series of inputs over time)
- Planning/Problem Solving
- Processing Speed
- Memory
- Auditory Processing (including phonemic awareness or thinking about the sounds inside of words)

- Visual Processing (the ability to perceive, analyze, and think in visual images)

Because PACE develops a broad range of processing skills, it is highly effective for various populations of students. We find that it is a valuable tool for high and average achievers who want to become even more efficient learners, as well as for below average students who have learning difficulties.

Here are some of the "real life" changes that we have seen and that have been reported to us by parents and teachers as a result of PACE:

- Faster and more accurate reading skills
- Completing schoolwork more rapidly
- Faster thinking / processing in general
- Greater willingness to try new things
- Increased performance in sports
- Increased ability to handle and remember more information without getting overwhelmed
- Increased comprehension and ability to analyze and think through things
- Better and longer attention focus
- Increased confidence

Fast ForWord, researched and developed by Scientific Learning Corporation, has been described as "glasses for the ears." It attacks the underlying difficulties that an individual may have understanding and using language.

While most children naturally acquire all the skills necessary for language during the first few years of life, up to ten percent of all children have language impairments. These are the children that have the most to gain from **Fast ForWord**. If this problem is not corrected at an early age, the consequences for these children can include academic failure, emotional and disciplinary problems, and possibly diminished lifelong achievement and self-image.

Who are these children? Often they are not easy to spot. According to the U.S. Department of Education, for many

students who have done poorly in school, their problems began in the primary grades when they first experienced difficulty in learning how to read. Often these children do not get help until they are in 4th or 5th grade, even later for some. By this time, they have most likely "tuned out." As a result, language impaired students have twice the dropout rate of non-language impaired students.

Specifically, here are the issues Fast ForWord attacks:

Unlike their non-language impaired peers, these children are not able to distinguish the rapidly changing sound elements and sequences of on-going speech, because their brain processes information too slowly. This difficulty can lead to problems with learning and using phonics and poor language comprehension.

Dr. Tallal looked at this speed issue and noted that non-language impaired individuals process information in 10's of milliseconds, whereas these children process the same information in 100's of milliseconds.

Speech is made up of rapid, specific sequences of sounds. Therefore, it must be processed at a very fast rate in order for the brain to "hear" all the sounds inside of words. Thus, it is actually the speed of processing—not speech—that may be the problem.

Dr. Tallal found that the slow processing speed often shows up in other sensory areas as well. She found that processing the signals from the eyes (visual) or the skin (tactile) often was as slow as the processing speed from the ears (auditory). Interestingly, however, because of the nature of speech, it is the only "sense" that **must** be processed this fast.

The **Fast ForWord** training programs employ cutting-edge computer exercises for language-learning impaired children that acoustically alter speech sounds so they are more readily distinguishable for them (In other words, speech sounds are slowed down by the computer to the speed at which the student processes). This allows the brain to develop an awareness of the sounds (phonemic awareness) which is a critical foundation for reading and spelling. The training exercises gradually increase the students' speed of processing until they are able to think about what they are hearing at normal speech rate.

Here are some of the "real life" changes that we have seen and that have been reported to us by parents and teachers as a result of Fast ForWord training programs:

- Greater participation in class
- Increased comprehension in discussions and conversations
- Completing work more quickly and accurately
- Making friends / increased social skills
- Increased reading fluency
- Improved reading skills
- Clearer oral expression
- Increased confidence

Both PACE and Fast ForWord work from the understanding that the brain is flexible and changeable. With mental exercise, or training, new neuropathways can be developed in the brain, allowing us to think in new or more efficient ways.

Training processing skills is most effectively done through intense practice. Both Fast ForWord and PACE are provided in intensive training. Fast ForWord programs require 90 - 120 minutes per day of training on the computer. PACE requires approximately 6 hours per week of individual instruction (generally 3 hours in the clinic and 3 hours of follow-up practice at home).

In my experience, PACE provides a broader base of cognitive training than FFW. When I evaluate a student and see that there are several areas of processing that seem to be weak, I recommend PACE. If the problem area seems to be more specifically targeted in the receptive language area, I will recommend FFW.

Growth Strategies, Inc., the developers of PACE, have recently released their new reading program, Master the Code (MTC). MTC uses much of the same unique and research-based methodology as PACE. We are very excited to be utilizing this program as well.

The Stowell Learning Center is a certified provider of both PACE and Fast For Word. To learn more about PACE go

to www.learninginfo.com or call 800-535-5441.

The exercises include fun-filled games with animated rewards to help children process the fundamental elements of speech. Certified providers, such as the Stowell Learning Center, guide their clients as the program tracks individual performance and recognizes correct responses.

The **Fast ForWord** program is **individualized** to provide as much acoustical modification as the child needs and to adapt the next exercise accordingly. As progress continues, the brain learns how to process acoustical signals at a faster and faster rate, moving the child to a level of speech more consistent with his or her age.

This CD-ROM and Internet-based program has been tested with and proven effective in improving processing rate, speech, and language in 500 children at 35 different sites, including schools, in the U.S. and Canada. On the average, after only 6 to 7 weeks of training, language-learning impaired children ages 4 to 12 showed improvement of more than one and a half years in speech processing and language ability.

It is this kind of success that has made the **Fast ForWord** program attractive to the Stowell Learning Center. While this might not be a program for all children, and certainly not a replacement for our other effective programs, it is another tool we can use to help our students work through their learning disabilities and become comfortable, independent learners.

In the words of Dr. Merzenich, "It's similar to what children with vision impairments experience when they first put on a new pair of glasses. This program is like glasses for the ears."

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