from the TEACHERS' LOUNGE

Are you a right-brained person? If you are, and if you are in fact ***strongly*** *right-brain dominant, then you're probably an intuitive thinker. You probably also are a whiz at non-verbal communication, are not very time-conscious, have excellent visual memory, are creative and imaginative. . . and had trouble in school. (That's* ***academic*** *trouble, not social or behavioral.) A genius waiting to be discovered you may have been, but you would nevertheless have had problems learning all those lessons.*

Did you know all of that? If you didn't you'll know a lot more about brain hemispheres and about right/left dominance after you read the article which follows. Or perhaps we should say the ***series of articles*** *to follow. We had originally thought it was going to be only* ***one****. Aware of the fact that Mrs. Antoinette Quenga, 1st grade teacher at Hope School in Grand Rapids, had developed some interest and picked up some expertise in this area, we asked her if she would write* ***an*** *informative article for* ***Perspectives****. In reading the manuscript which she graciously submitted, I reached the top of the last page and wondered how she could ever answer, in the little space remaining, all the questions she had prompted in my mind. I was very pleased therefore to read, in her last paragraph, that there would be a "next time," another installment. I'm looking forward to reading it. . . . think you will too.*

Fearfully and Wonderfully Made

Antoinette Quenga

The topic I have been asked to write about is somewhat controversial, capable of misunderstanding, subject to some built-in resistance, which is often the case with a new idea or discovery put to a new use.

When I had my teacher-training

many years ago, most of the education courses were how to teach this or that *subject*, rather than how to teach the *child*. I am indebted to one of our school parents for introducing me to a different approach to learning. She gave one of our teachers a book dealing with a right-brained approach to learning. This teacher subsequently gave me the book and I was on my way to the most fascinating study of how children learn in my entire teaching career. Since then I have attended several workshops given by the author of this book, and other seminars on the brain – how it develops from the time of conception and its process of maturing. With the recent burst of high-tech research, the invention of all kinds of instruments for measuring brain waves (such as CAT-scan), dominant right-brain, left-brain hemispheres, and hemispheric specialization, researchers and educators have learned that each child's learning pattern is as distinctive as his own fingerprints. Recently more of you are becoming familiar with what is called "right-brained," "left-brained" hemispheric organization.

In order to make some practical sense out of this vast body of knowledge, I will first describe the brain hemispheres and how they relate to our modern school curriculum.

The brain looks much like a walnut with two hemispheres and a connector called the corpus callosum – an extremely important piece of tissue because this is the avenue by which information is passed from one side of the brain to the other. It is a bundle of nerves deep within the brain with what appear to be fingers on each end spreading and connecting the different areas of the brain. Along with other organs of the body, this one also matures as the child grows, and it becomes easier for the child to pass information back and forth. Girls will usually mature before the boys. Before four years of age, the brain seems to be symmetrical – both sides can perform the same functions. About the time we send children to school, the hemispheres begin to specialize. Hand dominance becomes apparent. The language area – both speech and comprehension – is localized usually in the left side. The auditory processing center (ability to hear and distinguish sounds and remember them) is just above and behind the language. The center of vision is in the back of the head and bypasses the corpus callosum. The visual memory section is located in the right side. The motor controls are along both top sides of the brain, and the sensory on top of the head. The motor nerves control

movement – left-brain, right side; right-brain, left side. The sensory nerves control skin, bones, joints, muscles, movement of the body through space.

The reason these facts are noteworthy is that every child has his own special pattern of learning – no one way better than another, just different. (Traditionally, the school curriculum has favored the dominant left-brain learner.) Dominance refers to the hemisphere or area which is activated first and processes first the information coming in.

As a result of this knowledge, researchers have discovered that there are three major modalities for learning, usually one of which will be dominant. These are visual, auditory, and haptic (kinesthetic-tactile). Understand that all these modalities are used – we are whole-brained people – but one of these ways will usually be stronger. Teachers who are able to determine which modality is dominant are going to use the strong area for basic learning because that's the easiest, while they will use the other ways to reinforce the learning. To illustrate, if you are right-hand dominant, you are not going to use your left hand for your most difficult task.

One interesting thing about left-brain, right-brain dominance is that the two styles have very different thinking characteristics. Also keep in mind that this is not an either/or situation. There are no absolutes in brain function. When we observe the characteristics which I shall describe presently, keep in mind that the hemispheric functions can be described somewhat on a continuum. Some people are strongly left-brained, some balanced, some alternate back and forth, while others are strongly right-brained. Often these right-brained children are slow starters, or even learning disabled, because educators do not know how to reach them through their special way of learning. Often they turn out to be the gifted and talented, the world's "geniuses."

Since the school curriculum caters to left-brain characteristics, you can see why the left-brained children have the advantage because the information does not need to cross over and back. What are these school subjects? Reading, phonics, spelling, verbal memory, handwriting, locating details, following directions, listening, ability to use symbols. All of these are left-brain skills. Right-brained areas are not so easily defined: visual memory, creativity, imagination, art and music, shapes and movement through space, color sensitivity, feelings and emotions.

Left and right-brained children have different thinking characteristics. Left-dominant will

approach life in a part-whole picture at once, then the parts. Left-dominants will approach life in an orderly, logical, sequential fashion, while the right-dominant think and do things in a random fashion and are intuitive thinkers. They get the answers but they can not tell you how they did it. Often they are unfairly suspected of cheating. Left-brains usually don't have trouble communicating verbally; right-brains may be specialists in non-verbal communication. Left-brains are reality-based. They will adapt to the way things are, whereas often the right-brain will be fantasy-oriented, make up their own story endings, and attempt to change the environment to meet their own needs rather than to adapt to it. Left-brains are time-conscious, always right on schedule. Right-brains generally have trouble handling time-related tasks. Ten minutes or an hour is all the same to them. I'm sure all of you know people with some of these characteristics.

Although this article is already lengthy, I have but scratched the surface of this whole area of brain research and hemispheric specialization. Next time I shall focus some attention on the importance of physical co-ordination in the learning process, some observations that are often clues to right-brain dominance, and then some learning strategies to help right-brained children organize their activities to make coping with a left-brained world a little easier.

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From a teachers' lounge in a far corner of the country we have another contribution from Peter Adams. Mr. Adams teaches in Covenant Protestant Reformed School in Lynden, Washington. Struggling with what is ever one of the main burdens of a Christian teacher, namely that of bringing the Scriptures into the subject matter of the regular classes, he suggests that the solution may lie in reversing the matter. That's an interesting concept. For Pete's ideas on that, and on the rationale for teaching Bible in our schools, read on:

Teaching Bible in the Christian School

Peter Adams

We recognize in our Protestant Reformed circles that what makes a Christian school truly Christian is not necessarily that it teaches the Bible directly, but that all the subject material is taught and understood in the light of God's Word. We also agree that the church through her officebearers is commissioned by God to teach