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Memories Part III Learning: It Can Be Fun By James L. Holly, MD Your Life Your Health *The Examiner* July 10, 2008

You cannot learn if you are not living; and you are not living if you are not learning!

The stimulus for this three part series on memories and learning was a trip to Louisiana with my son and grandson. Visiting the gravesites of my grandson's great grandfather, great great grandfather and great great great grandfather, we both remembered and in the act of remembering created new memories.

Fundamentally, creating memories is the activity of learning. Often, we associate learning with formal exercises in a structured environment which we call "school." Yet, the most important lessons we learn in life are "OJT" – "on the job training" and even more importantly "LLWYAL" – "lessons learned while you are living." In the Christian community his principle is found in what is called "The Great Commission." The commission admonishes believers to share their faith with others with the words, "Go ye therefore...".

In this English translation, the commission seems to be saying, "Stop what you are doing and start doing something else." However, as is so often the case this translation obscures the original meaning. In the language of its first writing, this commission was written in Greek. In Greek the commission really means, "In that you are going,"" or "while you are going." The commission is not admonishing that you stop what you are doing but that while you are involved in your present activity be doing what the commission admonishes.

Learning is like that. Learning is not something you do when you stop doing something else; learning is something you do while you are involved in your life. There will be formal, structured learning but that is not the "real learning." The real learning is that knowledge which you acquire while you are living. In his seminal work, *The Fifth Discipline*, Dr. Peter Senge of the Massachusetts Institute of Technology, addresses the true nature of learning – learning is what changes you. It is not information; it is transformation. Senge states:

"The most accurate word in Western culture to describe what happens in a learning organization is one that hasn't had much currency for the past several hundred years...The word is '*metanoia*' and it means s shift of mind...For the Greeks, it meant a fundamental shift or change...In the early... Christian tradition, it took on a special meaning of awakening shared intuition and direct knowing of the highest, of God. '*Metanoia*' was probably the key term of such early Christians as John the Baptist. In the Catholic corpus the word *metanoia* was eventually translated as 'repent.' To grasp the meaning of '*metanoia*' is to grasp the deeper meaning of '*learning*,' for learning also involves a fundamental shift or movement of mind...Learning has come to be synonymous with 'taking in information.'...Yet, taking in information is only distantly related to real learning."

Senge continues the introduction of this pivotal concept when he said, "This then is the basic meaning of a learning organization...continually expanding its capacity to create its future. For such an organization, it is not enough merely to survive. 'Survival learning' or what is more often termed 'adaptive learning' is important – indeed it is necessary. But for a learning organization, 'adaptive learning' must be joined by 'generative learning,' learning that enhances our capacity to create."

We learn by living. My wife's uncle, whose life we celebrate often when we return to San Antonio to remember our adult roots, was the director of a program called "Lifetime learning." It was an adult education program which had the goal of helping those who were in their seventies, eighties and nineties to keep living by continuing to learn.. Living is not defined by inhaling and exhaling; living is defined by growing, changing and becoming, all of which are end-products of learning.

Learning can be fun and games

According to psychiatrist Gene Cohen (a game inventor, founder of the game company Genco, and former director of the National Institute of Mental Health's Center on Aging) games are mental gymnastics that can help people stay mentally fit. Cohen and other mental health professionals believe that playing games allows for people to flex brainpower and connections that they don't typically get to use when working or doing everyday tasks. Exercising the brain in this manner promotes the growth of better neural connections and the growth of brain cells.

Cohen's theories are backed up by research performed by Marian Diamond, a mental health professional at the Brain Research Institute of the University of California at Berkeley, who found that laboratory rats given toys to play with were able to find their way through mazes more quickly than rats who were not provided with toys. Upon examination of the two sets of rats the researchers discovered that there were profound differences in the brains of the two groups; the brains of the rats that had been given toys had more well-developed cerebral cortexes (which is the part of the brain related to thought). These findings gave rise to fun educational programs such as Sesame Street. What Cohen wants people to remember, though, is that mental exertion through games can boost the brainpower of people—and rats as evidenced by Diamond's study—of all ages. Also, Diamond's study found that rats that simply watched other rats playing did not increase their brainpower at all. So, instead of passive activity such as watching television every night, to be mentally nimble in the years to come Cohen advises playing board games or cards. And, according to Cohen, computerized games do not boost brainpower because they do not involve reading nonverbal cues like watching one's opponents' reactions, which are part of traditional games.

Different Smarts for Different People

Many times, there are people who are not necessarily "book" or "school" smart but who are whizzes when it comes to specific fields such as music, art, or the written word. In response to this phenomenon, psychologist Howard Gardner came up with seven different types of intelligence. They include: musical intelligence; intelligence involving envisioning and measuring space abstractly (in one's mind, as artists and architects often do); mathematical intelligence; and linguistic intelligence (superior writing skills). In addition, there is interpersonal intelligence (being able to relate to others in a productive manner); intrapersonal intelligence (having the ability to be deeply in touch with oneself on an emotional and mental level); and physical intelligence (skills possessed by superior athletes, dancers, or surgeons).

Other theorists have brought forth issues of practical intelligence, or the intelligence that correlates with a person's success in day-to-day life. According to these theorists, practical intelligence, which comes from observing others, has a great deal of validity in that traditional intelligence does not have any correlation to success in life; often times, people with high IQs never realize their potential or lack the common sense to make the best of their capacities.

In terms of how intelligent the general population is, the average IQ is 100, with 68.3 percent of people possessing IQs ranging between 85 and 115. People with IQs between 115 and 130 are classified as having superior IQs while those with IQs in excess of 130 are labeled as gifted. Those individuals whose IQ falls below 85 are labeled as borderline and any score under 70 often indicates that an individual is mentally impaired to some degree (see Chapter 12: Mental Illness for a discussion of mental retardation and its relationship to intelligence quotients).

IQ tests have come to be viewed as predictors of a person's performance in school and in given careers. Over the years, however, the idea of intelligence, which is strongly tied to Binet's initial test, has come under fire. The notion of intelligence and ways of measuring it do not take into account that individuals with learning disorders, while still being very intelligent, may have trouble with the standard test. In addition, many people feel that intelligence tests are culturally biased (preferential to certain groups of people).

For example, the Stanford-Binet Intelligence Scale, which is based on Binet's initial test, includes questions for young children about "typical" daily activities. However,

depending upon where one lives (for example, in the city or in the country, or in California or New York) or what one's experiences are, it might be difficult for some children to come up with the "correct" answer, according to the intelligence test, of what a typical daily activity is. In the case of adult testing, participants are asked to interpret the meaning of "common" proverbs (short sayings such as "A stitch in time saves nine"). It may be difficult to answer the question if a person has never heard of a certain proverb, or perhaps the proverb has a slightly different meaning depending on where a person grew up. Is it fair to say that someone possesses less intelligence than someone else because his or her life experiences do not coincide with the intelligence test?

Objectors to this type of intelligence testing propose that basic intelligence is not necessarily tied to knowledge, the acquiring of which has cultural biases. These concerns have given rise to a variety of intelligence tests that will measure not only verbal skills but also nonverbal skills and which are free of any bias.

Creativity and Creative Thinking

Just as intelligence is difficult to explain in a precise manner, so is creativity. While intelligence refers to one's capacity to understand, creativity can be referred to as one's capacity to think in unique ways and solve problems in an imaginative manner. However, intelligence and creativity are not necessarily linked. People who are highly intelligent may not be very creative at all while extremely creative individuals may not have a particularly high IQ. Creativity can be demonstrated in endless ways, from creative writing to painting to architecture to simply performing any task in a creative manner, whether it is parenting, teaching, or building and repairing things.

Whatever a person's creative talent may be, the key to creativity lies in divergent thinking. Many people will respond to questions using convergent thinking (thinking that is driven by knowledge and logic). Divergent thinkers, however, will respond to queries with unusual but still appropriate answers. For example, if a convergent thinker were asked how many ways he could think of to use a book, he might respond with a conventional answer such as, "You can read it and learn from it." A divergent thinker also gives conventional answers such as those given by a convergent thinker. But he may be more creative and say, "You could pile books on top of each other to create a step stool, or you could use the book as a doorstop, or you could use it as a serving tray."

Creative individuals tend to share certain characteristics, including a tendency to be more impulsive (spontaneous) than others. Nonconformity (not going along with the majority) can also be a sign of creativity. Many creative individuals are naturally unafraid of experimenting with new things; furthermore, creative people are often less susceptible to peer pressure, perhaps because they also tend to be self-reliant and unafraid to voice their true feelings even if they go against conventional wisdom.

How to Promote Creativity

Child development specialists suggest that there are specific ways to promote creativity in children. Parents, guardians, and teachers should urge children to think divergently and come up with many different answers to a question or problem, answers that may fall outside of a traditional response, and should be careful not to ridicule an offbeat solution; rather, this sort of response should be taken seriously. Children should also be encouraged to be free thinkers who do not always accept things as they are but, rather, question what is and why it is. In this vein, too, kids should feel they have a right to examine things independently and not always accept the answer, "Because that's just the way things are."

The Creative Household

While no one is precisely sure why certain people are creative while others are not particularly so, researchers have been able to identify certain qualities that are often present in the upbringing and home environments of creative people. Parents and guardians of creative children have been found to have some things in common. Specifically, they are not very critical of their children and urge their children to pursue new activities and experiences. They also encourage openness and value creative thinking and curiosity; unusual questions and skills are also valued.

Another aspect these households share is that they are not overly strict in terms of having a lot of formal rules. There are a lot of family discussions and kids learn values and good behavior through these discussions and through modeling (see section on Learning). Adults in these households also try to give children access to lessons in different areas (dance, sports, music) and provide equipment to carry out these activities. Creative kids are also likely to collect certain things (dolls, trading cards), which is usually done with a parent's support. A strong sense of play and silliness was also present in the home.

Of course, creative individuals are raised in households of all kinds, and not just in environments such as described here. Certainly, none of these things guarantees that a child or adult will necessarily be a creative person but it will help people to think creatively and to "color outside the lines."

Self-Esteem

Self-esteem refers to how an individual feels about him- or herself. Does someone view himself as a good person, worthy of good things? If he does, he probably has healthy self-esteem. If an individual views himself as flawed and unworthy of praise or the respect of others, he probably has low self-esteem.

Self-esteem motivates people's actions as well as the decisions they make. Individuals with positive self-esteem are likely to believe that they measure up to others sufficiently. They are more likely to have the confidence to pursue different accomplishments, whether it is trying to do well on a test, trying out for a sports team, answering a question in class, or applying for a job. These individuals are not overly afraid of failure; they

realize that failure is a natural part of life and whether they fail or succeed at something does not indicate their overall worth and ability as a person.

People with low self-esteem, however, are less likely to try their best at anything. They are so certain they will fail that they approach tasks and challenges with so much anxiety (worry or fear) that they are unable to concentrate. They are so afraid of failure (which, in their eyes, will only serve to confirm their lack of worth and ability) that they may not even try at all, finding it easier to believe that they may have succeeded had they really tried.

A strong sense of self and positive self-esteem can help prevent people from engaging in risky behavior or putting themselves in dangerous situations. These people know that, like all people, they deserve good things and that, regardless of one failure, success will come in the future in some way, shape, or form. There are several factors that influence self esteem. These include:

- Age: Self-esteem tends to grow steadily up until middle school, which may be due to the transition of moving from the familiar environment of elementary school to a new setting with new demands. Self-esteem will either continue to grow after this period or begin to plummet.
- Gender: Girls tend to be more susceptible to having low self-esteem than boys, perhaps because of increased social pressures that emphasize appearance rather than intelligence or athletic ability.
- Socioeconomic status: Researchers have found that children from higher-income families usually have a better sense of self-esteem in the mid- to late-adolescence years.

There is an old adage which says, "live and learn." How often do we realize and acknowledge that the two are virtual synonyms?