

is available on the Internet too. The Internet will speed up more and there will be new ways of supporting the Web. Only time will tell what will soon become accessible.

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QUANTUM LEARNING: LEADERSHIP FOR LEARNING ORGANIZATIONS

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ABSTRACT

Successful learning organizations are populated with leaders at all levels who are incredibly fast learners. This article briefly describes quantum learning, an approach to leadership development which helps speed up the learning curve for fast learning and fast application to customer solutions or any other organizational challenges.

LEADERSHIP & LEARNING

Leadership and learning in modern organizations are inextricably bound. Both Argyris (1998) and Senge (1990/94) have shown that organizational learning is bounded by leaders (and individual employees) own thinking or mental models which delineates the self-imposed learning limit. To grow we have to go beyond what we currently think. Relevant too, to organizational learning is that : 1) organizations depend upon information to grow (Wiener, 1948). Today the resource that human systems grow on can be amended to 'information/knowledge/wisdom, fast use of it'. 2) Leadership today has 3 important types (Bridges, 1996, p. 16) and all are linked to fast learning. A) General, the basic type of leadership required of everyone in a knowledge based economy/company. B) Team/project leadership, which is ad hoc and emergent. C) Formal, the type where one is responsible for departments, divisions, companies, MNC's (Multinational corporation) etc. These types of leadership roughly correspond to what this researcher perceives as the 3 levels of systems science. Level I is basic or general system science, Level II is chaos/complexity, Level III is quantum, where the rules break down as change/growth is so fast.

Level III – Quantum (light speed)

Level II – Chaos/Complexity (can be much faster)

Level I – General Systems Science (slow/incremental)

The levels further correspond to the range of human thinking/learning capacity as outlined below (adapted from Mills & Spittle, 2001). We call the faster thinking/learning capacity range 'quantum learning.' The above has to do with the speed of learning, and the key is how fast and wisely we apply that learning to serve customers or to the daily work

challenges.

Quantum learning then, has a strong foundation in system science, leadership and the learning principles as discussed below. The learning principles include knowledge about how we think and learn and a discussion of the range of our thinking/learning capacity.

QUANTUM LEARNING

What is our meaning of quantum learning? Quantum is the science of possibilities. When we use it to refer to individual or group learning, we think of the **possibilities** of where we can grow/go, human **potential**. We think of the probabilities of where a certain direction will take us or our organization. Quantum learning is insight based. It is instantaneous, a nanosecond of seeing from our inner knowing or wisdom. It is a flash of understanding, the light bulb going on. This quantum level is the human birthright, accessible to us through a quiet, uncluttered, reflective mind. This trend towards reflection, thinking and action, and spirituality has been duly noted in the organizational and leadership research (Senge, 1990:1994; Argyris in Fulmer, 1998; Cleveland, 1997; Mills & Spittle, 2001; Wheatley, & Kellner-Rogers, 1996; Wilbur, 2000, 2001; Zohar, 1997 to name just a few). Recently, researchers at the University of West Virginia Medical School have contributed to this areas of brain. They have discovered that the part of the brain that gets most excited during use is that which corresponds to creation or creativity (Lecture, University of West Virginia Health Sciences Center, Morgantown, WV, June 16, 2001).

Understanding that humans have the capacity to operate at a quantum level has important implications for learning. We will first discuss how the *function* of the human thought system operates. There are 3 principles operating in unison which explain the human thought system. These principles are mind, thought and consciousness. (We call them quantum learning principles.)¹ Mind is defined as the universal intelligence or energy that fuels the Universe and all material reality. Thought is the ability to create experience from our thinking via our senses. Consciousness is our awareness or understanding that we create our experience of life from our

thinking and how the process works. The Mind powers the functioning of our thought system. This universal energy source powers a continuous process of humans creating their separate version of life on a moment-to-moment basis (Banks, 2001; Mills and Spittle, 2001). To express that in more systemic language, we take formless Universal energy, (Mind) create our experience of life (Thought) and we are aware that we constantly create form from the formless (Consciousness) and how that process works.

Humans think to create (Spittle training lecture, January, 2001). Now we don't create experience from every thought we think—only those that we choose. Here is where "free will" comes to play. We don't choose what thoughts we think, thoughts are like an endless data stream—they simply flow. But we do choose which ones to convert into our experience—we do this "creation act" continuously, on a moment-to-moment basis. These principles can explain all human behavior and emotion/feelings, from the criminally insane to the happy and well balanced. The point is when we understand that we are the thinkers—the creators of our experience of life, we can more purposively choose where we want to go and what we want to create. We do it anyway. Remember principles operate whether we are cognizant of them or not. An illustrative example would be gravity. The key here is *choice*. Humans have a tremendous capacity to use their thinking in more or less productive ways.

Auxiliary to the principles is an understanding of the range of thinking/learning capacity that humans possess. This broad range of thinking/learning goes from the quantum, which includes perspective, insight, common sense and wisdom, to analysis, processing, and memory (Mills and Spittle, 2001, see the diagram below).

BROAD RANGING CAPACITY OF THINKING/LEARNING SYSTEM

WISDOM-INSIGHT-COMMONSENSE-PERSPECTIVE-ANALYSIS-
PROCESSING-MEMORY

(adapted from Mills & Spittle, 2001:56)

Each range, has its own set of corresponding uses, or what can be accomplished at that level. (This corresponds to the 3 levels of systems science, and their various principles, which operate at the various levels—basic system science, chaos/complexity and the quantum.) Memory, for example, is used to memorize useful facts such as our address, our boss's birthday, how to get home, old English poems, basic geography, math, reading, grammar etc. Analysis, processing and memory are in the capacity range of single and double loop learning. This capacity range is highly useful for organizing the basics of our work or life and basic problem solving. The quantum includes perspective, wisdom, common sense and insights. This total range of thinking is available to humans from birth. Yet, it seems as we mature we may mistakenly begin valuing analysis and processing over insight, common sense and wisdom. Perhaps our academic and business training leads us off in this direction. Yet the whole range is available and most useful when we use them in concert—for instance, wisdom with analysis, when we do our yearly budget or three year business plan. At times, we move into perspective (big picture or systems thinking), common sense, insight and wisdom and use them in concert with memory (such as designing new, insight based solutions and also using some design facets from past projects.) Leaders commonly use vision (perspective) to

visualize future directions for their companies or their interrelated industries, then analysis to flesh out the logistics.

Each level has its own uses. Where we get into trouble is when we expect one level to do another level's job. For instance, you cannot use memory to design creative solutions (creativity is in Level III). Memory only has what you have stored there—past experiences, childhood memories, snatches of memorized poems and such. So if you want creative, new high tech products designed, you will want to access the quantum level where creativity, and fresh, original thinking is its natural function. And the higher levels are accessed through a calm, quiet mind. So the calmer and quieter our thinking, the more we can use the full range of our thinking/learning capacity.

Another example...When working in learning environments of higher education, we realized that in writing papers, especially a Dissertation or Thesis, we were asking people to come up with original thinking, yet we expected them to 'get there' from the memory, analysis, processing ranges (at least in terms of what we taught). Fresh, original thinking is accessed from the higher ranges of our thinking/learning capacity, from perspective, common sense, etc.) and cannot be discovered at the analyses, processing or memory level. When we shared the principles with people in these programs, they experienced a much easier access to their inner wisdom and higher range, and therefore had far less trouble creating fresh, original work. They also did it in much less time (one group exposed the longest to the principles took 1/3 of the time of those newly exposed.)

Now, we call that quiet mind or clarity of vision, "a place of clarity," a term Stacey (1996) used to describe the state of being calm, creative and knowing. The point is that the more we understand about how our thinking works and how we use our thinking (each of us uses it to develop our own version of reality or self contained content), the higher the quality of our thinking, actions, creations, work life and life in general. Our exercise of choice (our own thinking/learning process) rises in quality, and we in turn, raise the quality of our organizations. The leadership and employee development, culture, benefits, sales/marketing growth process, customer service, global expansion, Internet presence etc. benefits as a result.

Let's connect our thinking/learning to actions and emotions/feelings. Whatever thinking we choose to create our experience of reality with, we also create accompanying feelings or emotions and actions or behavior. We jokingly think we'd like to strangle the wee son for his latest bit of mischief or fire the salesperson who just can't seem to 'get it right with customers', but we have a better understanding now of the difference between thought and action. We choose to chuckle over it, not take it serious and let the thought flow away. When we get useful thoughts or insights, we will choose those and use them to create our experience of life. For example, when we get an insight about content for our corporate website, we begin fleshing out the insight to see how it looks. We may also feel grateful and exhilarated that the words and ideas finally came to us! When we get an insight about a new corporate direction, we know it feels right, and immediately may have our people begin to check out the possibilities. The point is that this insight provided an answer for a direction we knew we wanted to take. So we create both the emotions and the action/behavior from our

thinking. Emotions/feelings are like roadside signs that indicate where we're going. When we feel overwhelming negative feelings, we can see that as a sign of where our thinking is taking us. Our thought system is our navigational tool—it takes us where we want to go. When we are aware of that on an explicit level, we can use it more intentionally, more productively. Our thinking will fool us less often. We will take crazy, flippant thinking less seriously because we know we do not have to act on it, we know it's not real. Let me share an example of thinking. I was raised Catholic. Catholics have mortal and venial sins. Mortal sins included the action. Venial sins could include thinking about the action. It was a venial sin to even think a "bad" thought. Well, what we're saying is that there is a big difference between having a "bad" thought and acting on it. We all have crazy thoughts. We all have brilliant thoughts. Whether we use them productively or destructively is what makes the difference.

As we think, so do we learn. We use our thinking to learn just as we use it to create the accompanying feelings and actions of the thoughts we choose to experience. Now, how does this connect to the quantum, learning and insight based learning? We can use our thinking to help or hinder our growth/learning. As we said before, quantum when referring to human systems (individuals or organizations) is the science of possibilities, probable ways to grow/go, developing our usage of potential. We can compare our developmental leadership journey to a test drive of an awesome new race car. We can 'test drive' our thinking/learning capacity and see what it can do. What we all do is create the impossible. When we know we can "go there" the trip happens with much more grace and ease. We have the capacity to create the organizations of the future today with our thinking. We use quantum learning to help draw out the leadership potential within people. From there, and referring to the types of leadership Bridges (1996, p. 16) pointed out above, people choose what level leadership they will develop for use, depending upon their gifts and preferences. Some leaders are content leading teams to manage projects, others want to create and run their own companies or climb the corporate ladder to CEO or executive status, still others simply want to run their own work or projects. Quantum learning is a tool for a new age of leadership.

OPTIMUM LEARNING ENVIRONMENT

Can we actually create the conditions for people to use their quantum thinking/learning capacity more often? The coaching we do with leaders and developing leaders indicates the affirmative. What does that require? We begin by sharing and encouraging a deepening understanding of the quantum learning principles so that people have the tools to change and grow. Then as a team, we create an optimum learning environment by taking the time to get to know each other (build rapport), listen deeply to each other, and experiment with what works and what doesn't work. From our coaching end there is respect, a genuine caring for people, and a knowing that we are there to help (an "in service to" attitude), plus an upbeat, lively tone (just being ourselves). That tone is reciprocated wholeheartedly from the teams or individual members. Those being coached are already great coach/leaders as evidenced by how they coached/lead/learned with each other. Together we create an environment in which to learn based on deep rapport, appreciation, respect and trust. In very little time, we have taken quantum leaps from where we started. And finally, another answer to the second part of that initial question (and

this idea is echoed in the literature), is that learning leaders possess their own love of learning. Leaders of the coach/teachers/managers/executive variety love to learn, and that love of what we do, is a priceless asset that can't be faked, borrowed, or stolen. If we love to coach/lead, we love to learn. Because most of the really interesting leader jobs in our IWE (integrated World Economy, Zeleny, 1989) are about learning. Whenever we accomplish something new at work, it is about learning. And because of the complexity (and we haven't even begun yet, wait till we are organizing stellar business, light years from each other), quantum learning at the higher range of our thinking/learning capacity will become even more useful. Thus far, it is the best way we know to come up with solutions that are far beyond our range of memorized fact or past experience, alone or as a team. And the results show that we are helping create companies where real humans are thrilled to work, grow and contribute their best. So do we have great jobs or what? And so do all leaders engaged in the rewarding process of becoming!

CONCLUSION

Quantum learning represents humans learning at the peak of their thinking/learning capacity. It is common knowledge that humans do not use but a fraction of their brains. Quantum learning takes us beyond that limitation. Coaching, consulting and leadership development training using quantum learning have shown practitioners how it transforms leaders, organizations and organized learning environments. It is our best tool for competitive advantage—on an individual and organizational basis.

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DIGITIZATION, THE INTERNET, AND ELECTRONIC COMMERCE

By Rita Joyce

The future of digitization, the Internet, and electronic commerce intertwine. By looking at the past and the present, businesses can take an active part in shaping the future. Forecasting both short-term and long-term changes allows businesses to prepare for possible futures and even to shape those futures to meet their own desires. This paper will provide three and ten year forecasts of 1) how and why businesses will use digitization of data; 2) possible changes in usage of the internet; 3) and how digitization and the internet will influence electronic commerce. A review of trends and issues will provide support for the forecasts.

During the next three years, companies will continue to make changes to internal systems to facilitate electronic commerce through digitization of data and continue to build Internet web sites. As businesses develop web sites, the next few years will focus on how their business can and should change because of their web presence. How will the work force change? What is the impact of digitization?

Digitization of data will have two components: the need for technical skills and how it changes the workforce. Some companies and communities have collaborated to create programs designed to create a skilled workforce locally. Chris Taylor describes this approach as "philanthropic entrepreneurialism." The companies create a pool of qualified workers while the community gains by having the means to educate people in need for high paying jobs. To meet tomorrow's demands, businesses are developing the appropriate workforce now. However, if people are offered the opportunity to learn skills for the new look of information technology (i.e. computer languages used in creating web sites), a shortage of people capable of working with the older computer languages may develop.

In addition to improving data flow and integration between legacy systems, companies will be integrating their systems with a web site. New opportunities arise for the traditional COBOL programmers to interact with programmers who use JAVA, XML, and other new technology to create web sites. The value offered by following a strategic vision will be minimized until the initial web site is running due to constraints of available resources with appropriate skills. Businesses need to ensure that the workforce includes people with both types of skills as they plan for the next three years.

Building a web site is not enough to successfully compete on the Internet. According to Bob MacAvoy (YEAR), e-business is about changing your business model so that it can adapt to our new economy. After a company establishes a presence on the web, they will gain a competitive advantage when they become proficient at electronic commerce. A good web design that is pleasing to the potential customers will decrease the likelihood of negative comments to others, which have the potential to cause great harm. A non-strategic approach will leave businesses vulnerable to new market entrants. Brick and mortar

companies will continue to compete with dot-com companies. The threat posed by dot-com companies will propel companies to compete in a new and exciting realm, but perhaps at less than a strategic level during the short term.

During the next ten years, businesses will feel the impact of the very nature of digitization and computer work, which will allow people to choose where they live. As reported by Michiko Kakutani in a review of Joel Kotkin's book *The New Geography*, Internet and wireless communication will free people from the restrictions of location. Cities, which saw tremendous growth during the industrial era, may lose population to places that have better climates. Digitization will allow people to more readily choose where they will live based on personal preferences rather than on where their employer is located. Kakutani (2000) criticizes Kotkin () for not being clear on whether urban areas offer cultural venues important to the technology worker or that technology workers will choose remote locales to escape crime and congestion associated with urban areas. For brick and mortar companies this freedom of locale will impact their workforce and the very infrastructure of their systems. Managing the digitization of data will be a challenge if the staff is geographically dispersed.

Slywotzky and Morrison define "digital business" as "one in which strategic options have been transformed-and significantly broadened-by the use of digital technologies." Businesses will move toward strategic planning around digitization, which will allow businesses to first sell their products, then to initiate the manufacturing process, eliminating waste of materials, time, and effort.

According to Bill Gates (1999), ten years from now, personal computers will be more prevalent in homes as well as in public domains such as libraries, kiosks in malls, and schools. Many appliances will function based on self-contained computers using digital data. Competition among the dot-com companies combined with investor expectations that the dot-com companies will generate profits will force a consolidation and elimination of dot-com companies on the World Wide Web. The look and feel of dot-com companies will change from an over proliferation of niche companies to a concentration of companies that are diverse enough to attract enough customers to realize a profit. Brick and mortar companies will create links or partnerships with the dot-com companies that can facilitate or enhance their own offerings. Instead of the competition seen today, there will be cooperation and partnership allowing both types of companies to concentrate on their core competencies. Companies who never developed internet capabilities and visibility will have lost market share and possibly folded, just as dot-com companies will have realized a dependence on brick and mortar companies.

As time marches on, businesses will need to ensure that their strategic vision is applied to their Internet site. Our society is self-centered and will be most pleased with web