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FILLING THE SKILL-SET GAP:

A GUIDE TO PEER-TO-PEER TRAINING

A WHITE PAPER

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WHITE PAPER

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"Tell me and I forget. Show me and I remember. Involve me and I understand."

- Unattributed Chinese proverb

"Docendo discimus" (By teaching, we learn).

- Seneca the Younger in his letters to Lucilius Junior

1.0 INTRODUCTION

We live and work in an era of chaotic transition.

Worldwide population growth and its resulting increased demand for scarce resources have drastically changed the social and economic landscape. Changes in technology and personal mobility have out-paced our ability to comprehend, and challenged our capacity to cope. Where a worker's career with a single employer once spanned decades, and even an individual's lifetime, it is now common to measure employee retention in scant years and months. Where once there was local and regional market stability, we have interconnected economies where events on one side of the globe can have devastating consequences on seemingly unconnected financial systems and markets.

Keeping pace with new and shifting technology, and their resulting skill-sets, increasingly forms the basis for surviving in an ever-shrinking and competitive world. Yet, despite a widespread recognition of these new dynamics, very little has changed in the way we retain or re-train our workforce.

The American Society for Training and Development (ASTD, 2008) estimates that United States' organizations spent $134.39 Billion on employee learning and development in 2007. Of this amount: $83.63 billion was spent on internal learning functions, such as staff salaries and internal development costs. The remaining $50.77 Billion was used for external services such as workshops, vendors and other external events. In an often-cited but unattributed U.S. Department of Labor statistic, it costs a company one-third of a new hire's annual salary to replace an employee. Intuitively, this assertion resonates as being intrinsically accurate. New employees, regardless of experience, need to be both recruited and trained. However, in the commercial sense, both recruitment and training are what Lean [1] theorists and practitioners call a Non-Value-Added Activity (NVA).

[1] Lean is a strategy or system for remaining competitive by identifying and eliminating wasteful steps in products, services, or processes by identifying 'waste' from the customer perspective. There are eight kinds of waste: overproduction, transportation, inventory, waiting, over-processing, rework and scrap, motion, and unused human intellect and creativity.

Perhaps the best way to understand the NVA concept is to understand its antithesis: the Value-Added Activity (VA).

The conditions for an activity having "value" are straightforward and rigid:

- There must be a customer, and that customer must be willing to pay for the activity. That is to say, if the customer knew of the activity, they would recognize it as being a necessary and legitimate cost for the product or service received.
- The activity must change the "form, fit, or function" [2] of the product or service, moving the product or service that the customer desires to purchase closer to its completed state.
- The activity performed needs to be correct the first time; there must be no re-work of any kind.

While both recruitment and training are activities necessary for the formation and the running of a business, they each fail all three conditions for value:

- Neither are activities that any customer would be willing to pay for. One can easily imagine the consternation and gnashing-of-teeth created by a line-item breakdown for a given product or service presented to a customer that included charges for recruitment and training costs.
- Neither activity adds to the form, fit, or function of the product or service.
- Each is a repetitive activity occurring multiple times over the lifetime of an organization; individual positions within the organization stay, the individual incumbent's come-and-go.

Ironically, wages and employee benefits are often the single largest cost in the operation of a business. They are also habitually the first place employers look at when attempting to decrease operating expenses. The process of laying-off employees to solve short-term cash-flow woes amounts to a quadruple assault upon organizational resources. Not only is the business losing a past human resource investment, it is losing institutional and functional knowledge. Concurrently, it is setting itself up for additional human resource overhead when they begin re-hiring. Last, it opens the door for decreased confidence in the business' future viability. In turn, this may lead to lower customer confidence, lower employee productivity and an increase in voluntary terminations as employees seek job opportunities elsewhere.

Businesses typically look outside the organization for expertise for recurring or new business-critical skill-sets. Frequently, the initial step is at the executive or senior management level. Retaining outside consultants for the purposes of expediting initial knowledge transfer and validation to the executive layer is often a first step. Implementing specific training modules and curricula, delivered by an outside company often follows. The company may hire a new executive-layer employee who already possesses the required substantive knowledge and skill-sets. Alternatively, the company may instead opt to collaborate with other companies who have established expertise in the skill-set sought.

Regardless of the method used, maintaining or gaining new knowledge required to remain competitive is both time consuming and expensive. It becomes even more complicated when internal budgetary priorities dictate that hard executive-level choices need to be made, resulting in internal conflicts for scarce resources. This internal activity, debate, and occasional rancor - in-turn- results in even greater overhead costs acquiring new knowledge and skill-sets.

Last, and perhaps most important, knowledge transfers rarely - with the possible exception of executive and managerial new hires - have formal performance metric requirements established. All too often, when performance

[2] Form, Fit and Function are manufacturing and engineering concepts. Form is the shape, size, dimension, mass, weight and other visual parameters which uniquely characterize an item. Fit is the ability of an item to physically interface or interconnect with or become an integral part of another item. Last, function is the action or actions that an item is designed to perform. Applying these manufacturing process concepts to service sector and administrative processes has been equally successful.

criteria are established, they tend to be subjective rather than objective metrics tied to increased efficiency and effectiveness. As impossible as it may seem organizations and their administrative subsets frequently fail, too, to understand whom - actually - their true customer is. While a particular activity may be non-value-added in terms of the ultimate external customer, it may be value added-when considering one's internal customers. That this concept is lost to the vast majority of executives and managers is hardly surprising. Few businesses or organizations use Service-Level Agreements (SLAs) to establish internal streams of revenue and unambiguous internal vendor-customer relationships. Consequently, many organizations tend to ask the wrong question, and therefore - inevitably - spend a great deal of time, effort and resources collecting the wrong data, which leads them predictably to the wrong answers, and ultimately to faulty decision-making on future activities and actions.

Over the past two decades, the traditional approach to knowledge transfer - what it is, what it should be, and how you get it - have dramatically shifted. Once, education was a singular event taking-place during a very specific stage of life. Now it is a quest of a lifetime. As Edward Sallis and Gary Jones (Sallis, 2002) have noted, educational and social institutions have not kept pace with the social demand for education:

> "*Education is still insufficiently flexible. In the industrial economy of the past, when only a small minority of the populating went into occupations that required high levels of literacy, the traditional academic curriculum may have made sense as the main education route. Today, knowledge and lifelong learning are key issues, and the curriculum needs to be subjected to root-and-branch change, with the on developing creativity. Education may have made people think, but it did not necessarily teach them how to think, or provide them with thinking skills. Education has often used too narrow a definition of learning, based on a restrictive model of intelligence, concerned largely with academic ability. Consideration has also been given to the synergy between work, innovation and learning. This narrow model of learning filters out some of the most important intelligences and abilities. It ignores the relationship between work and learning, and the relationship between work and learning and change and creativity*". [3]

The point, here, is that there is plenty of room for questioning whether the traditional implementation approaches to training and knowledge transfer meet the more rigorous demands of effectiveness and efficiency characterized by the Lean approach to process improvement. Peer-to-Peer (P2P) training appears to be a substantive step in the right direction.

It is the goal of this White Paper to present an argument for why businesses and other organizations should adopt peer-to-peer training on an integral and on-going basis, and layout a roadmap for its implementation. All discussion to follow about, P2P - unless noted otherwise - is in the context of its use within business and governmental organizations.

2.0 KNOWLEDGE MANAGEMENT AND COMMUNITY OF PRACTICE

Before going into any detail about peer-to-peer training - what it is, and how to implement it - it is first necessary to fix its place within the larger context of social scientific thought and theory. Peer-to-peer training is a subset of Community of Practice (CoP), which - in turn - is a subset of the discipline of Knowledge Management (KM).

The term "Knowledge Management" has been used to describe a wide body of interdisciplinary knowledge and theory on how knowledge is organized and used. As Koganurmath, et al, point out [sic]:

> "*Knowledge management is an increasingly important source of competitive advantage for organisations. Knowledge embedded in the organisation's business processes and the employee's skills provides the firm with unique capabilities to deliver customers with a product or service. Knowledge management is a form of expertise-centred management, which draws out tacit knowledge making it accessible for specific purposes to improve the performance of organisations. Successful application of knowledge management practices involves understanding and constructively utilising information for organisational learning. Social Science institutions,*

[3] Sallis & Jones, 2002, p. 96.

> *Government and non- government organisations, etc. are knowledge intensive, and the use of advanced technology may transform these institutions and organisations in the future.*" [4]

They define *Knowledge Management* as, "how knowledge can be managed and used more effectively on a daily basis". [5]

As Sallis and Jones, also note:

> "*Knowledge is the key resources of the information age. Today, the importance of managing knowledge and know-how is a categorical organizational imperative. Without understanding their own process for knowledge creation, organizations are unlikely to continue as functioning enterprises. The successful 21st-century organizations - schools, small businesses or corporate giants - will be those that make the use of their information and knowledge and use them to create sustained additional value for their stakeholders*".[6]

Jean Lave - a social anthropologist - and Etienne Wenger - who earned a Ph.D. in artificial intelligence before joining the Institute for Research on Learning, Palo Alto, California - first coined the phrase "Community of Practice" (CoP) in the early 1990s. [7] Community of Practice is defined as, "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly". [8]

Three criteria are necessary for a group to be a CoP: [9]

1. There must be a shared domain of interests, and there must be a mutual commitment to those interests. A neighborhood, while often referred to as a community, may in fact only be a collection of strangers who live within the bounds of a particular geographic subsection. The same may be true for a particular group of students, or a group of co-workers.

2. The members must form a community within their common domain of interest. That is, its members must participate in joint activities and exchange information in support of their domain. Relationships within the group must be developed and maintained to support the learning process.

3. There must be a practice of skills shared by the community's members. These skills evolve. Over time, they will be perfected in response to individual and group "lessons learned".

The CoP definition "allows for, but does not assume, intentionality". [10] That is to say, it is eminently possible for the CoP members to be completely unaware of their own educational process, as a process. Both group affiliation and the learning process within are taken for granted, remaining unidentified by its members as a primary reason for the group's formation, continuation, or its activities. While Communities of Practice certainly exist in every sphere of human activity, the very fact that self-awareness may be lacking constrains many CoPs from improving their members' collective skill sets either efficiently or effectively.

Communities of Practices' are neither good nor bad. The learning activities within a group can result in learning of both functional or dysfunctional skills and behavior. For example, we know that prisons serve as a finishing school for professional criminals. Young - relatively inexperienced criminals - receive the equivalent of Masters Degree in their chosen criminal specialty during their formative years of incarceration. Criminal organizations provide similar - on the job - knowledge management functions. Yet we need to look no further than the recent headlines to know that comparable criminal mentoring and skill-set refinement occurs - all-be-it in considerably less brutal surroundings - within the realms of both business and government. Often this criminal behavior originates at the highest levels of prestige and power.

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[4] Koganurmath, M. M., Angadi, M., Hiremath, C. V., & Bhandi, A., 2000, p. 1
[5] Koganurmath *et al, 2000, p. 2*
[6] Sallis & Jones, 2002, p. 1
[7] Lave, J., & Wenger, E. (1991)
[8] Wenger, E. (2007)
[9] Wenger, E. (2007)
[10] Wenger, E. (2007)

Knowledge transfer is not just a matter of skill-sets. It is invariably, too, a transfer and refinement of group norms and attitudes.

From an organizational transformation perspective, this begs the questions:

> *Do the organizations to which we belong have Communities of Practice already established? If already established, are they resulting in knowledge transfers and group norms that are supportive of the purposes and goals of the greater group to which they belong? If not supportive of those goals, what are the values and skill-sets that we wish these CoPs to pass-on and to perfect?*

3.0 PEER-TO-PEER TRAINING

Peer-to-Peer (P2P) training is a self-aware Community of Practice. In the professional workplace, the goal of peer-to-peer training is to establish what Jeff Conklin has described as a *knowledge organization*, a concern whose primary asset is knowledge, and whose comptetitive advantage comes from having it and efectively using it. [11] The key to the knowledge organization is the *knowledge worker, who*:

> "*… unlike the blue collar and traditional white-collar worker, is an expert or specialist, because to be effectively applied, knowledge must be specialized. As a consequence, knowledge workers (unlike their clerk forebears) must routinely come together to solve complex problems—they work in teams*." [12]

As already discussed, the power of the peer group - for good or for ill - has long been recognized. Past studies have demonstrated peer-to-peer training's effectiveness and efficiency. [13] It has been used in HIV/AIDS prevention and reproductive health programs around the world[14], adult developmental disabilities[15], and Learning by Teaching (LdL) [16]. However, instances of peer-to-peer training in the business world appear to be mostly informal and not well documented. [17] Neither the Project Management Institute's PMBOK[18], nor the International Institute of Business Analysts' BABOK [19] ever truly addresses the subject. Even books on Lean and Theory of Constraints [20] have a tendency to take a formal top-down view of knowledge management and training.

P2P is different; it hands-off, "as much teaching responsibility to the learner as possible and to encourage as many students as possible to engage in the highest possible degree of activity" [21]. The student(s) takes on the role of teacher, and under the watchful and overall supervision of the leader (supervisor, manager, professor, etc.) prepares a lesson which must organize the material to be taught, prepare a lesson plan that considers the most appropriate teaching methods to convey their topic, and then actually presents the material to the group-at-large.

In my own case, I have used a "shoe-string" approach to training as an integral part of my own professional toolkit for over a decade, but never bothered to document it or write about it until very recently. [22] As a Project Management Professional, I developed my own training techniques as an approach for ad hoc project teams assigned

[11] Conklin , 2001, p. 3
[12] Conklin , 2001, p. 2
[13] Thurston, L. P. (1982).
[14] See, Geneva Foundation for Medical Education and Research. (2002). Also see, Robinson, J. S., Burkhalter, B. R., Rasmussen, B., & Sugiono, R. (2001).
[15] Finn, L. L., & Sturmey, P. (2009).
[16] Learning By Teaching (in German, "Lernen durch Lehren", hense "LdL) was developed by Dr. Jean-Pol Martin. See, Skinner (n.d.), Grzega, (2005, September). Grzega & Schöner (May, 2005), and Birkenkrahe & Mundt (2009).
[17] Black, D., Peres, S. C., & Tamborello, I. F. (2008).
[18] Project Management Institute (PMI), 2009.
[19] International Institute of Business Analysts (IIBA), 2008.
[20] For example, see: Goldratt (1990); Nonaka, I., & Takeuchi, H. (1995); Demming (1999); Colenso, M. (2000); Womack, J. P., & Jones, D. T. (2003); and Gilpatrick, K. E., & Furlong, B. (2007).
[21] Grzega, J., 2005 (September), p. 1.
[22] For example, suggested in: Lefcowitz, M. (2008).

to me. Team members all too often lacked specific mission-critical skill-sets, skills that I felt were important to the ultimate success of the project. Rather than complain, I decided to take the responsibility for getting the team members "up-to-speed" under "no training budget" and no "training time" conditions, and have had great success with it. [23]

Sabine Finzi [24] cites the results of a study on volunteerism among young adults (18 – 24).conducted by the Institute for Volunteering Research. Eight criteria are discussed as impacting young adult P2P: flexibility, legitimacy, ease of access, experience, incentive (motivation), variety, organization, having fun. [25] Intuitively, this seems to be accurate when applying these elements to a non-adult subset of the population, but modification is required if we are to successfully apply these criteria to P2P for adults in the workplace.

Adults are expected to support themselves; voluntary participation does not have the same meaning when it is applied to fully functioning adults. With adulthood comes the expectation that individuals will have an elevated understanding of their responsibilities in the workplace. The assumption is made -too -that adults are self-motivated, and that they understand that success, as a member of a team is as important as individual achievement.

3.1 Individual Learning Style

Different people learn in different ways.

Neil Rackman (1988, pp. 148 - 152) lists four rules for learning new skills:

1. Practive only one behavior at a time.
2. Try the new behavior at least three times.
3. Quanity before quality
4. Practice in safe situations.

There are appropximately 30 – 40 different models [26] that attempt to describe how individuals learn. In a 1988 groundbreaking article Richard Felder and Linda Silverman [27] attempted to codify these various models into a single, all-inclussive approach. Subsequent refinements by Felder (1993), and Felder and Barbara Soloman [28] have resulted in an easy to grasp, data supported taxonomy commonly referred to as the *Felder Learning Style*. [29] Their model identifies eight styles of leaning, grouped into four opposing extreme pairs:

- Active Learning vs. Reflective Learning
- Sensing Learning vs. Intuitive Learning
- Visual Learning vs. Verbal Learning
- Sequential Learning vs. Global Learning

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[23] In one particular instance, a project team made-up of ten undergraduate interns was hired by Sacramento HHS for the summer to collect data on physician's readiness to implement HIPAA (Health Insurance Portability and Accountability Act**)** regulations. None of the interns had business requirements collection experience. The "peer-to-peer" training techniques used were instrumental in convincing the Executive layer that the team could be used as junior business analysts for other projects. The entire intern group was extended an additional nine months.

[24] Finzi, S. (n.d.)

[25] Institute for Volunteering Research. (1997).

[26] Felder, R. M. (2007).

[27] Felder, R. M., & Silverman, L. K. (1988).

[28] Felder, R. M., & Soloman, B. A. (n.d.).

[29] A visit to the Index of Learning Styles (ILS) site at: http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSpage.html provides a wealth of interesting information, as well as the opportunity to take the ILS questionnaire. The results of the questionnaire are automatically tabulated.

Active vs. Reflective Learning:

- Active learners are people who learn by doing. They take the information and do something with it. They are hands-on oriented and engaged. People who are active learners do well in group activities, applied exercises, and other practical learning experiences. They do not perform as well in lecture situations.
- Reflective learners introspectively process information. They take the information and think about it. Individuals that are reflective tend to do well in independent work environments; they tend to focus on theory rather than hands-on learning experiences.
- Reflective learners tend to define problems and develop possible solutions; active learners will evaluate those ideas and implement the process(es) needed to test the validity and efficiency of the proposed solutions.

Sensing vs. Intuitive Learning:

- Sensors are factual. They have a tendancy to gather information through their senses. People who are sensors tend to be very concrete and dislike abstractions; they prefer practical real-world applications of new material. Like active learners, sensors prefer situations that provide facts and data; they problem solve and learn new material more easily by repetition and memorization. Sensors tend to be detail oriented and are very careful and precise when completing tasks.
- Intuitive learners work well on innovation and new possibilities; they are comfortable with abstractions and tend to get impatient with situations that are overly detailed. People who are intuitive learners tend to work more quickly, but make more initial errors. However, they also tend to be comfortable in learning new concepts and new information because they generally recognize the broader aspects of problem-solving. Intuitive learners are more comfortable with symbols and words, which makes it easier for these individuals to integrate new concepts and terminology than sensors.
- Sensors bring their unique abilities of attention to detail, thoroughness, and practicality to problem solving; intuitors offer their creativity, and their ability at model-building and concept connection.

Visual vs. Verbal (Auditory) Learning:

- People who are visual learners learn by seeing. They tend to function efficiently when new information is presented in a visual format; i.e., pictures, diagrams, videos and demonstrations. Individuals who are visual learners tend to rely on visual aids to process new information. They tend to make diagrams, highlight text, and take notes that contain concept maps that connect elements of new information together. Visual Learners do not do well with strictly verbal communication and information, they need aids to capture and retain information.
- People who are verbal learners learn through hearing. They tend to learn most effectively when they either verbally repeat the new information or write it in their own words. Verbal learners tend to be more comfortable in exploring new information through discussion, rather than experience. Asking a verbal learner to repeat back an instruction or new information is the best way to help them learn.
- Everyone learns better when new information is presented both verbally and visually.

Sequential vs. Global Learning:

- Sequential learners are individuals who learn material in a linear, logically ordered progression. They are logical, methodical, careful and accurate, and tend to problem-solve by means of a step-by-step reasoning process. Sequential learners tend to be strong tying together information, and focusing on solving a specific problem - particularly solving problems that have a single, correct solution. They learn most efficiently when information is presented incrementally, with increased complexity. Sequential learners benefit from reviewing outlines and using references.

- Individuals who are global learners tend to be oriented to the "big picture". They tend to need to know where they are going, before they can travel the path to get there. Global learners tend to be intuitive; the use of tedious methods or a chronology of steps without a known destination tends to confuse them. People who are global learners can synthesize information, making connections that others may not see.
- Global learners tend to be more creative and have a greater breadth of vision; sequential learners tend to be better at understanding the details, and identifying a specific solution.

Felder (1993) suggests the following strategies, which have been up-dated to reflect his revised model for effective learning :

- *Active Learners* should work in a group in which the members take turns explaining different topics. Use others to validate information and processes.
- *Reflective Learners* should not simply read or memorize the material. Periodic stops should be built into the presented information that allows them to review what they have read and think about questions, constraints and consequences, or applications. They should be encouraged to write short summaries of the information presented in their own words.
- *Sensing Learners* need to be given specific examples of concepts and procedures, and how the information is applied in practice. Sensing learners should be provided with supplemental resources to allow them to seek-out addiotional information. They should be encouraged to discuss and brainstorm with others.
- *Intuitive Learners* should be provided the opportunity to apply the information in new ways that are relevant to the group's problems and the tasks. The intuitive learner can provide the leader with unexpected solutions and insights.
- *Visual Learners* need visual representations of the information. Concept maps listing key points, and enclosing them in boxes or circles, is a key strategy, as well as providing appropriate makers to color coding notes and diagrams .
- *Verbal Learners* should be encouraged to write summaries or outlines in their own words.
- *Sequential Learners*, too, should be encourage to write summaries or outlines, and then strengthen global thinking skills by relating new information to things they already know.
- *Global Learners* need a summary of the information presented, and sufficient time so that they can absorb where the final destination will be. Again, new information needs to be connected to things they already know.

Felder (1993) persuasively advocates a multiple style approach to teaching - one that takes into account all of the styles of learing - as being both the most effective and the most efficient. This strongly suggests that learning is incremental, rather than linear. Yet most training is presented in a linear fashion.

By far, most of us - to one extent or other - have preference tendencies toward one of the paired learning styles over its counterpart, but that is not to imply that we cannot or should not be exposed to the others. Like anything else, learning weaknesses need to be exercised and strengthened. In the last analysis, the key to the whole concept of learning – and leadership – styles is to allow the learner to acquire knowledge and experience in their own way and at their own pace.

3.2 Leadership Buy-in and Mentoring

No matter how dedicated or self-motivated, little can be accomplished within an organization without the buy-in and mentoring of active leadership. It is assumed that with matriculation from school to the workplace that leadership will be taught, but in reality this seldom is the case. Only recently have our business schools begun to take-on the issue of leadership, and then only minimally. Why? Because leadership teaches lessons on how to get things done through the combined effort of others. The purpose of leadership - ultimately – is to train more leaders. Few academics know how to teach the subjects for which they are trained, much less subjects for which they have not been trained. As noted by Felder (2007):

"People don't train university professors to teach, as a rule. Its the only skilled profession in existence for which the practitioners get no training, and none is presumed necessary…So, the only models we have are the way our teachers taught, but no one taught them to teach either. And so it just perpetuates."

A teacher who truly cares about maximizing the number of students who "get it", must have the exceeding good fortune to have come under the influence of another teacher who knows how to teach and who serves as a role model, or they must go out and learn it independently through trial-and-error.

It is much the same for leadership. Even organizations and institutions who pride themselves on producing leaders, often take a narrow approach to what leadership is and how they should be trained. Individuals who are lucky enough to come under the influence of a true leader have a tendancy to "get it", while those who do not, tend to flounder around until they either self-learn, rationalize that management and leadership are the same thing, or turn to the easier, traditional command/authoritarian style. In the process, a lot of followers, fall-by-the-wayside, wasting a great deal of human capital along-the-way. Since leadership is a form of teaching, it then follows that leadership should be taught - too - with a multiple style approach.

For the authoritarian teacher or manager, taking into account eight contrasting styles of learning is - to say the least - daunting. And so, Felder (1993) poses the central question: How can… [a teacher or leader - hereafter leader]… do all that…?

In response, rather than the traditional approach of using a board and lecturing, Felder suggests the extensive use of handouts. The information presented can then be quickly reviewed during the formal session, giving subordinates the ability to follow the notes and the discussion using both senses. Presuming the handouts are clearly organized - an important issue which is not within the scope of this discussion - minimizing attention and energies devoted to taking notes can be transformed into a tool that serves both visual and verbal learners.

Again, the authoritarian leader may object to extra prepatory work. To which we can only respond, perhaps they would be more comfortable in not being burdened with a leadership role. A leader who can not be bothered to put in the extra effort to lead by example does no one a service, least of all to themselves.

On the opposite end-of-the-spectrum, is the leader who tries to make it easy for everyone, except themselves. Learning is an effort, and giving someone the opportunity to learn requires that there is an acceptance of the responsibility to actually do everything possible to take advantage of the opportunity that has been given. This requires others' to match their leader's resolve and commitment to the task-at-hand. Deligation of responsibilities, supervized and validated by the leader, is a good way for getting people onboard and fully engaged. All subordinates - regardless of learning style and substantive knowledge - should be recruited to provide the leader with support on the preparation of materials. They should be frequently rotated on a round-robin basis, so that everyone gets a chance to learn new skills.

Competent leadership leads to teamwork. It distributes appropriate roles of responsibilies among its members to attain both goup and individual goals. While group goals rightly have priority, individual goals must be taken into account to ensure the long-term stability of the group and its membership into the future.

This technique will be discussed in greater detail, below.

3.3 Risk to Day-to-Day Responsibilities

Leaders who place a subordinate's day-to-day responsibilities in jeopardy by assigning a special task or project at the last minute, without establishing a new priority structure, only invite disaster.

While the current coin-of-the-realm is multitasking ability, this is not to imply that anyone can sustain a maximum effort indefinitely. Even the fastest, most capable runner needs to slow down, and eventually they need to stop and replenish their energy. In the end, contradicting priorities ensure that no task will be completed well, even if – in fact, somehow - they have all been technically completed.

Similarly, subordinates who are expected to complete work-mandated training that they perceive will jeopardize their day-to-day responsibilities will balk. Extended training is really asking the worker to do extended, extra work and then catch-up when they return. Even in those instances where an alternate worker has been assigned to pick-up the slack, it is unlikely that an alternate will give the same time and attention to someone else's duties. The subordinate who worries about what lays ahead when they return to their desk, is not likely to be concentrating all their energies on learning.

From our earliest days, we are students. We retain that status throughout our formative years. Indeed, once upon a time, leaving the ranks of student was regarded as a signal of the arrival of adulthood. More recently, due to the ever-quickening pace of change, older adults have returned to school to remain competitive in their chosen field, or to change fields where better employment opportunities may be found. As Seltzer and Bentley (1999) have pointed out:

> "*[W]hile the underlying economic structures of society are undergoing a dramatic transformation, our educational structures are lagging behind…In contrast to the typical worker of the industrial age who was required to learn a relatively stable set of competencies, the knowledge-based worker is experiencing a blurring of the boundaries between work and learning.* " [30]

It appears that learning - for most of us - has become a life-long necessity, rather than a leisurely pursuit or avocation. Sallis and Jones note:

> "*The employer has the responsibility to create the conditions in which learning communities can flourish. They need to create the teams, put in the staff development and ensure that their staff have the training to make the most of the opportunities*." [31]

For Seltzer and Bentley knowledge and skills allows individuals to achieve valued goals in new ways. They list four key elements for creative learning:

- The ability to identify new problems, rather than depending on others to define them
- The ability to transfer knowledge gained in one context to another in order to solve a problem
- The ability to transfer knowledge as an incremental process, in which repeated attempts will eventually lead to success
- The capacity to focus attention in the pursuit of a goal, or set of goals [32]

Yet it is the very institutions and businesses that we rely upon who have failed to, "recognize these trends and develop creativity as a major theme for learning in the 21st century". [33]

Once again, for these reasons - among the many others already cited - that training in general - and P2P in particular - needs to be incremental. Using the traditional approach to training, there is not enough time or resources to train individuals in the workplace with new skills that would allow them to solve problems more creatively. [34] Moreover, those executives, managers, and human resource professionals who have the responsibility for training and knowledge management generally do not have the first clue which skills are required or how to prioritize them. Rarely are they inclined to take the trouble to find out. Left to their own devices, individual workers either

[30] Seltzer & Bentley, 1999, p. vii - viii
[31] Sallis & Jones, 2002, p. 96.
[32] Seltzer & Bentley, 1999, p. ix
[33] Sallis & Jones, 2002, p. 96.
[34] See, Lefcowitz, 2006, December

fatalistically do nothing, or go back to the very institutions and private training sources that have already failed them.

The workplace has failed in its responsibility to make creative learning integral to our day-to-day responsibilities.

3.4 Subject Matter Relevance

Creative learning must be viewed as being relivant to motivate subordinates to embrace P2P.

Pascarella and Terenzini (1991, p98) report a significant body of evidence pointing to the conclussion that the greater the learner's involvement in the learning process, then the greater the level of content acquisition. They suggest that active learning techniques be used that encourage student involvement or engagement . However, without a shift in the training paradigm the obstacles to achieving active learning in the workplace appear daunting.

With increasing rapidity, the marketplace presents a new “flavor-of-the-month” device, software or process. Their creators tout each of these capable of making businesses more profitable and our governments more efficient. Executives and managers eager for a panacea that will produce results with little pain, snap-up each new incarnation. Regardless of their individual merits or deficiencies, almost all of these are destined to fail. [35]

Our institutions - and a large number of the individuals who inhabit them - lack many of the basic tools to implement these new products and processes. [36] The evidence for this is the phenomenal growth of business management and consultative businesses over the past 40 years.[37]

Harold Lewis (2004) points out that organizations frequently bring in consultants without any clear idea what they are expecting to do with them, and lists a number of incorrect reasons for using consultants:

- Requiring the consultant to achieve a result that depends on factors and decisions outside their contol;
- Buying the consultant’s name to give a veneer of credibility to a project known to be unfeasible or a plan that is deeply flawed;
- Using the consultant as scapegoats to take the blame for unpopular or disagreeable actions;
- Asking the consultant to assume risks that are more properly your responsibility;
- Imagining the consultants are miracle workers who can solve all your problems;
- Hoping the consultant will wave a magic wand over your organization and turn your staff into successful managers overnight;
- Wanting the consultant to graft on to your organization attitudes and values that really need to grow from within;
- Expecting the consultant to arbitrate in deep-seated technical and management conflicts;
- Believing the consultant can save you the trouble of defining policies and objectives. [38]

Originally intended to provide a temporary independent point-of-view, management consultants now routinely provide staff augmentation and outsourcing of entire departments that extend for multiple years on a sole source, contract basis. If organizations hire consulting firms to fill skill-set gaps on a multi-year basis, at what point are their employees ever to attain the experience, expertise and institutional knowledge to do it on their own? More-to-the-point, how can mangers be realistically expected to administer and oversee processes for which they have neither the experience nor expertise to understand?

As noted in a previous article:

[35] See, Lefcowitz,2006, October.
[36] See, Lefcowitz, 2008.
[37] See, Lefcowitz, 2007, September, pp. 4 – 7.
[38] Lewis, H, 2004, pp. 11 - 12.

> *"On the corporate level, certainly businesses recognize the need for specific skill-sets to meet organizational needs and future growth. Many companies train internally, and some even encourage skill-set training through educational grants or reimbursement. But only a few take a proactive approach. Developing skill-set growth is generally viewed as an employee benefit left to the sensibilities and desires of the individual. Specific training efforts initiated internally are almost always a reaction to some other event--for example: the purchase of a new software application. Corporations and their governmental equivalents continue to categorize by job title and/or function, as opposed to defining a specific skill-set universe. And when corporations do define skill-set criteria in a job requirement, they almost always get it wrong. Skill-set requirements are generally just not fully understood, either by virtue of lack of experience, lack of accurate information, or shifting and changing functional and technological needs*." [39]

Let us take statistical skill-sets as an example:

Millions of high school and college students have studied basics statistics. Generally, most of us do not progress very much further than the introductory level of statistical methods, because (going back to Felder, 2007) of less than stellar teaching methods by institutions paid to do otherwise. As Sloboda (2005, p. 2) notes:

> "*Facilitators of statistics courses often present the material in an abstract lecture format, followed by illustrations of the concepts of the lecture using prototypical examples and textbook exercises. Before the class session is over, the learners are assigned problems to complete to be submitted for the next class*."

Because we were not taught well, we did not learn well; because we did not learn well, we did not do well; and because we did not do well, we go into "freeze, flight, or fight" mode any time we find ourselves anywhere near all but the most basic statistical problems. Notwithstanding any of this, businesses need statistical analysts more than ever. More particularly, they need functional subject matter experts (SMEs) who also have a firm grasp of probability and statistical methodologies. What shall we do?

The solution is staring us right in the face.

Virtually every office worker in the world today already has the means to do sophisticated statistical analysis on his or her desk. Microsoft Office Excel (MS Excel) is by far the market leader for spreadsheet applications in the business arena, and thereby leader in both the education and home computer application markets. By any standard, MS Excel is a robust and powerful calculation application, capable of much more than its common use as a spreadsheet repository for data. Yet most workers barely scratch the surface of its capabilities. Why? Because the MS Excel training most of us have received is very basic, and advanced training is very expensive.

To its credit, Microsoft Incorporated – as well as a veritable army of independent MS Excel gurus – has a wealth of freely available information and tips for the well-motivated MS Excel user to find and use on the internet. There are, too, multitudes of self-help reference books. Each individual worker is left to their own devices to decide how deep into MS Excel's considerable capabilities to go. Those of us who use formulas and other advanced functions have learned out of necessity on the job, or on our own time, because being a "power user" made us more attractive to employers. However, what of the others who - for one reason or another - are not inclined to such individual effort?

The accepted common wisdom of our capitalistic culture is that these individuals are unworthy of our efforts. Rarely do organizations establish increasingly high expectations for their employees to become an MS Excel "power user". As a result, less than motivated workers are left to remain unmotivated, and the organization and those who are their co-workers are left to pay the price. Is that what we, either as employees, managers or executives, really want? Are we truly content with mediocrity as the gold standard?

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[39] Lefcowitz, 2006, December.

As an initial starting point, one would be hard-pressed to think of any other subject that is more relevant to both job satisfaction, to long-term career development, or - for that matter - long-term organization efficiency and effectiveness than attaining greater familiarity with Microsoft Office Excel.

3.5 Applied Skills

The ability to communicate ideas and facts to others - both in writing and verbally - is a central set of skills that is imperative to attaining a meaningful knowledge management within the workforce.

Andrew Sum (1999), reports the results from the National Adult Literacy survey conducted by the U.S. Department of Education, where the working definition of literacy is: "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." [40] Functionally, literacy is divided into three components:

Prose literacy: the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction; for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem, or contrasting views expressed in editorials.

Document literacy: the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs; for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

Quantitative literacy: the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials; for example, balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement. [41]

Sum's report notes, in part:

- Mean literacy proficiencies on all three scales — prose, document, and quantitative — were higher for adults participating in the labor force than for those outside of the labor force..[42]
- Analyses of literacy proficiencies by occupation and major industry revealed large variability across sectors, partially due to educational requirements of certain occupations and industrial groups. While workers in finance, insurance, and real estate industries and the public administration sector posted relatively high proficiencies, many front-line, blue-collar workers within the goods-producing industries displayed quite limited skills. Given that 60 percent performed in Level 1 or 2 on the prose and document scales, further investments in the literacy skills of our front-line workers may help to improve our productivity and future economic competitiveness. [43]

However - as performance metrics - these are at best minimal, particularly if a major component of our knowledge management strategy is to produce greater statistical accumen among our in-house functionals, rather than using the alternative of hiring consultants, to drive our transformation efforts toward greater efficiency and effectiveness. Important human communications, and the cognitive and social skills that make these competencies possible, are completely ignored. These are referred to as *applied skills* in a 2006 report of a study conducted jointly by the The Conference Board / Partnership for 21st Century Skills / Corporate Voices for Working Families / Society for Human Resources Management (The Conference Board, 2006, p. 15).

[40] Sum, 1999, p. 5.
[41] Sum, 1999, p. 6 - 7.
[42] Sum, 1999, p. xiv.
[43] Sum, 1999, p. xvii.

The report's findings indicate that:

> *"…far too many young people are inadequately prepared to be successful in the workplace. At the high school level, well over one-half of new entrants are deficiently prepared in the most important skills— Oral and Written Communications, Professionalism/Work Ethic, and Critical Thinking/Problem Solving. College graduates are better prepared, with lower levels of deficiency on the most important skills, but too few are excelling. Only about one-quarter of four-year college graduates are perceived to be excellent in many of the most important skills, and more than one-quarter of four-year college graduates are perceived to be deficiently prepared in Written Communications."* [44]

Basic Knowledge/Skills	Applied Skills
English Language (spoken)	Critical Thinking/Problem Solving
Reading Comprehension (in English)	Oral Communications
Writing in English (grammar, spelling, etc.)	Written Communications
Mathematics	Teamwork/Collaboration
Science	Diversity
Government/Economics	Information Technology Application
Humanities/Arts	Leadership
Foreign Languages	Creativity/Innovation
History/Geography	Lifelong Learning/Self Direction
	Professionalism/Work Ethic
	Ethics/Social Responsibility

Figure 1: Basic Knowledge & Applied Key Skills [45]

The Report makes 15 recommendations, which for the purpose of this paper are present in greatly abbreviated form:

- Students should acquire basic knowledge and a complement of applied skills.
- Professionalism/Work Ethic must be emphasized for new entrants at all educational levels, including issues of timeliness, dress, career growth, courtesy, teamwork, commitment, responsibility, and integrity.
- There must be an emphasis on critical thinking and effective writing and speaking skills in secondary and postsecondary education to support success in the workplace.
- Making Appropriate Choices Concerning Health and Wellness is the number one "most critical" emerging content area. Issues of nutrition, exercise, stress reduction and work-life effectiveness should be considered part of workforce readiness.
- All stakeholders (business, educators, and community members) should consider methods of enhancing important workplace skills.
- Employers need a better understanding of the classroom environment, and academics need a better understanding of the workplace.
- All new entrants to the workforce should understand the importance of and need for Lifelong Learning/Self Direction throughout their working lives.
- Creativity/Innovation is among the top five applied skills projected to increase in importance and yet employer respondents consider it "deficient."

[44] The Conference Board, 2006, p. 7.
[45] The Conference Board, 2006, p. 9.

- Current and future members of the workforce should develop a sufficient knowledge and skill base to be accepted into two-year or four-year colleges. Simultaneously, affordability of higher education for the broadest base of society must be considered.
- Leadership skills must be fostered.
- All stakeholders should develop cross-sector approaches.
- Businesses should consider calculating the actual costs of remedial training and determine the financial implications of providing versus not providing remedial training—both in the short and longer term.
- Businesses should provide better training for new entrants so they better understand the expectations for advancement and are prepared to chart realistic career paths for themselves.
- Educators should consider assessing current curricula in response to the deficiencies and future needs reported in the survey.
- Young people and their families should assume a significant responsibility for learning and teaching, respectively. [46]

3.6 Teamwork & Collaboration

While the ability to communicate ideas and facts to others - both in writing and verbally - is a central set of skills needed for meaningful knowledge management, it is teamwork and the ability to collaborate with others that is critical to any group's success. Basic and applied skill sets that lack teamwork and collaboration elevate individual accomplishment over group accomplishment. Without it, nothing can be accomplished; with it, almost any realistic goal can be achieved.

People make things happen; projects and other human enterprises succeed or fail on the ability of individuals to work together toward common short-term goals that lead inexorably toward a common long-term goal.

Much has been written about the elements of teamwork, and there are loads of consultants and private companies available that are more than willing to sell their services to both corporations and governmental entities to "train" their staff to work as a team. Most of these companies offer some combination of lectures and training "adventures", aimed at "sensitizing" their students. Vendors who sell such services are selling a product to their customers, not a solution. [47] Since learning is incremental, any lessons learned by putting a group into what is essentially a simulation to play at teamwork will soon be lost when they return to the real world where teamwork and collaboration are in short supply.

Customers who buy such products certainly have no grasp of what leadership is about, or they would not waste their company's resources on such worthless products and services.

The only way to teach teamwork and collaboration is to insist on teamwork and collaboration. The only way to assure that outcome is through leadership. The Board-of-Directors keep the Executives in-line, Executives keep their Division heads in-line, Division heads keep their Managers in-line, Managers keep their line supervisors in-line, and line-supervisors keep their individual team members in line. Conversely, when leadership is established, at any given level within the organization, mutual trust and respect tends to take hold. Subordinates can now play vital advisory roles to help their Leader avoid mistakes and bad decisions.

Leadership is not something that can be bought, it is something we do, something we emulate, and it is something we evaluate and strive to do better every single time.

[46] The Conference Board, 2006, pp. 58 - 59.
[47] See, Lefcowitz, (2007, September).

4.0 THE MECHANICS OF P2P

The Conference Board Report - with its emphasis on students not yet in the workforce - begs the question, "What are we to do with our current population of workers?" The report raises the issue of effective business writing skills in the workplace [48] and cites Shell Corporations' in-house training program [49], but little else. The issue of how you transform organizations from the "AS-IS" state to the "TO-BE" state of the future is critical.

P2P seems to be the answer to that dilemma.

The mechanics of Peer-to-Peer (P2P) training are simple and straightforward. It requires at least two (2) individuals - a supervisor and a subordinate - although P2P would seem to work best with larger groups - with an upward limit only constrained by administrative considerations and venue choice. Ironically, much of the formal work on P2P has been accomplished by the academic practitioners of Learning By Teaching (LdL) [50], where professors use the metaphor of a company to run their classes, and see themselves in the role of an executive manager. [51]

This paper will assume that in practice the typical P2P grouping will be between 6 – 10 individuals, with a line supervisor or project manager in the Lead role. [52]

4.1 Planning P2P

The last thing this paper would advocate is that anyone go out half-cocked and implement P2P on the fly, for both practical and ethical reasons:

- The Lead (within the constraints of their legal obligations and ethical constraints) has the obligation - literally - to do *whatever is necessary to make the experiment work.*

  All too often, supervisors and managers perceive that they are somehow specially privileged, that they are not required any longer to put in long hours, get their hands dirty, or in any way step back from their exalted position. Nothing could be further from the truth. Aside from the obvious obligation to the greater organization for criteria of performance, the Lead – in addition to their formal role as manager - is now voluntarily taking-on the additional role of mentor. Mentoring requires commitment to action tied to results, commitment to growth and discovery, and an openness to give and receive help and feedback (Bell, 2002, p. 5).

- The Lead must have a plan.

  Aside from being an absolute necessity as a roadmap for action, a plan is extremely helpful in forcing the examination of ideas that appear initially to be plausible, but after inspection turnout to be unrealistic. A plan has a specific goal. "Making my subordinates better at what they do" **is not a goal**, <u>it is a wish</u>.

  A P2P plan should have the following elements:

  Version Page: A version control matrix should be inserted right after the title page, and kept up-to-date.

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[48] The Conference Board, 2006, p. 38.
[49] The Conference Board, 2006, p. 47.
[50] See previous footnote #16. I will leave others to debate whether P2P is a synonym for LdL, or whether one is a subset of the other.
[51] Grzega, 2005, p. 2.
[52] Grzega (2005, p. 4) , a professor at Katholische Universität Eichstätt-Ingolstadt, Eichstätt and Westfälische Wilhelms-Universität, Münster, Germany, asserts that the ideal number of participants for a LdL exercise is 20 to 30. Both workplace and academic venues provide their own challenges and constraints, and should not be ignored.

Business Drivers / Background: Why is P2P being implemented? What concrete business drivers are you trying to affect? An expected duration statement that spells out a start date, an end date, and the follow-up to be taken after the end date is also appropriate.
Opportunity / Vision: How does P2p fit into the organizations Vision and Goals?
Controlling Document(s): What legal documents are you relying on to establish the bounds of action (employee manual, statements of work, formal job descriptions, etc.)
Definitions: What are the definitions and terms you will be using throughout the plan that may be unfamiliar to a complete stranger, or be required for metric tracking purposes?
Goal Statement: Specifically, what are you hoping to achieve?
Phases and Phase Objectives: How do you plan to rollout your training agenda.
Scope: What knowledge sets are specifically in-scope? What knowledge sets are specifically out-of-scope? Are there any known grey areas?
Schedule: A detailed description of each phase, the expected curriculum and module titles, expected delivery dates for each step in the presentation development process (using a presentation check-off as a guide). Who is responsible for what and when?
High Level Deliverables: What physical artifacts are expected to be retained for historical purpose, and where will they be stored.
Group Composition, Organization and Training Schedule:
Sub-Section 1: Roles & Responsibilities
Sub-Section 2: Governances (Optional)
Sub-Section 3: Team Composition
Assumptions, Constraints and Risks: What assumptions are you making? What constraints exist that may affect the success of the success of your training plan? What is the likelihood that a constraint will actually occur and become a risk? If so, is the risk acceptable or do you need a mitigation plan to deal with it?
Performance Measures/Outcomes: How will you know that you have succeeded, and how do you plan to measure success?
Quality Control: How do you plan to assure content, balance in learning styles, and documentation standards?
Reports: Do you plan to issue any reports on the P2P results? If so, how often, and to whom? Reports should also be reflected in the schedule.
Closeout and Lessons Learned: It is assumed that P2P will become an ongoing component in your workspace, but it needs to be treated as a project. If so, part of the closeout process will be the issuance of a new P2P plan, prior to final closeout. Lessons learned are vital! What did you learn? What sort of feedback did you get from your subordinates? How do you plan to improve?

Suggested Appendices:

Appendix 1: Templates:
Teaching Plan Template
Presentation Check-off List
Presentation Template s
Presentation Evaluation

Appendix 2: Final Training Module Documents: If these are not attached physically, where to find them and who to contact for further information.

- A plan to increase basic and applied skill sets must be maintained and kept accurate.

The plan is a living document. No plan is implemented as first conceived. The Lead must be prepared to change it frequently, and the plan must be kept up-to-date - for both practical and historical documentation purposes.

4.2 Implementing P2P

As in any supervisory situation, the individual in the Lead role must try to assess the strengths and weaknesses of the group to be led. In the business world this is easier than in academia. Supervisors have an ongoing, day-to-day relationship with the group and its' members, and may have a resumes and/or employment records available to them to give insights on the basic and applied skills level that each member is likely to have. Obviously such information must be evaluated through actual observation and interaction.

Unless there is a good reason not to, P2P should be schedule at regular intervals on a weekly or bi-weekly basis. My own preference is at weekly Team meetings. Generally, I assign the meeting Moderator role to the Team members on a round-robin basis, so everyone gets a chance to prepare a meeting agenda and run the group's meetings. The formal Team meeting is limited to 20 minutes, the remaining time (30 – 40 minutes) is devoted to the training module. Everyone (including the Lead) is responsible for note taking, and notes are rolled up and compiled by the assigned Moderator, and submitted to the Lead for validation and signature. For simplicity's sake, the assigned Moderator is assigned the Trainer role the following week.

In turn, each Trainer becomes the group's in-house subject matter expert (SME) for that subject material for the entirety of the training plan schedule. When a new training plan is established, the Lead should be able to select someone new, who will be assigned a more advanced presentation to the group, and thereby become the new SME. SMEs are the Team's first point-of-contact for assistance on that specific subject.

All meeting documents – agenda, training plan, hand-outs, meeting notes must reviewed and validated by the Lead on a pre-determined basis that is a part of the training plan. Soliciting Team input is often helpful in getting Team by-in, so long as the input remains consistent with the established training objectives and the synchronization of effort that is required. These document are deliverables, due at specific times during the work week. They count when considering job performance and job evaluation. It is up to each individual member of the Team to find time during their normal work week day to do what they need to do to assure timely submission.

This is the way I do it, because it is fair and it seems to work under most conditions for my teams. Leads who want to do it differently should feel free to figure out what works best for them and their particular circumstances.

- Training outcomes must be established that are measurable.

  Training is not a result; it is a means to reach a result. Therefore, the Team's attendance in a training module is not a valid measurement of training success. The information needs to be applied. The Performance Measures/Outcomes section of the Training Plan must have specific training goals established for each module. To "train all team members on how to create a chart in MS Excel" is not a measureable goal. However, to "train all team members in how to create a chart in MS Excel - in particular scatter diagrams , to be routinely used by all team members to analyze monthly performance data - no later than *mm/dd/yyyy* " is a measurable goal.

- The Lead does not have to do everything.

  Part of the P2P approach is to build applied skill competencies. Subordinates learn to lead by taking responsibility and following through with action that meets supervisory expectations. Failure is a part of learning. It is the responsibility of the Lead to assure that failure is not catastrophic and psychologically debilitating. Leads supply the direction and guidance; subordinates provide as much muscle as they are capable.

- Initially, try to match roles and module assignments to basic and applied skill set levels.

  You do not ask someone to walk before they are ready to crawl. Some of the Team's members will be very confident in their abilities, others will not. If it is necessary to organize the Team into pairs or small workgroups, it is important to try to match individuals who have similar skill sets whenever possible. Self-confident Team members will have a tendency to take charge, and less-confident Team members will tend to let them. Whatever the case, both types have their own challenges: Self-confident, skill-proficient individuals have a tendency to be creative (a good thing). Making sure that self-confident individuals do not get too creative and go-off-the-reservation takes as much effort as helping their less confident and less skilled co-workers learn to take charge. Less-confident individuals need to be encouraged without abandoning standards of quality. Both types require patience, diplomacy, consistency, and judicial amount of firmness when required.

Never ask someone to volunteer in front of the group. Leads should ask for each Team member's preference in roles and assignments - along with secondary preferences - in private. If there is a match, it is perfectly all right for the Lead to say so, so long as no commitment is made or implied. The Lead must make their decision based on what they believe is best for the group as a whole. If consideration is to be given on who is to do what, it should be given to those who have the furthest to go. If an adverse decision is made on a Team member's role and assignment choices, it should be discussed in private, before a general Team announcement.

Leads should make sure that every Team member is the Lead for some important aspect of the P2P exercise. Make sure everyone is given an opportunity to both lead and to be led. The first few module presentations should be made by some of the Team's most self-confident able members, but not all of them. Less confident members should be interspersed throughout the entire training schedule so that they are forced to step-up-to-the-plate with some confidence that it is not an impossible expectation.

- The Lead must make the first initial module presentation.

  The Lead should pick a subject that is relevant to the goals of the P2P exercise, that they know well, and be the first presentation in the plan and for all subsequent training plans in the future.

  Leads should be able to demonstrate to their Team members that they know what they are talking about by doing it, themselves. Because my own initial training was in conflict resolution and conflict analysis, I always present a module on conflict theory because I believe it helps the Team think about the functional and dysfunctional aspects of interpersonal and group conflict as a first step in thinking how to deal with instances of each.

- Hold individuals accountable for their actions.

  Establish a level playing field for all – Team Lead included. What are the Lead's expectations; what can the Team expect from the Lead? Establish the group norm of, *"saying what you mean, and meaning what you say"*.

- Praise in public; criticize in private.

  No one likes to be embarrassed in front of others. The "Golden Rule" - or whatever other religious or ethical standard that is its' equivalent - applies at all times, for everyone.

- The Lead must know how they want their Team to use their new skill-sets, and insist that they do.

  Nothing fades faster than knowledge that is not actually used. If the training can not be used immediately, then do not put it in the training plan.

4.3 Constraints to P2P

There will be all sorts of excuses and rationalization why a P2P approach can not be implemented. A lack of team accumen, a lack of time, a lack of team analytical skills, or lack of resources and/or money (Lefcowitz, 2008, pp. 3 - 7) - to name just a few - will be cited. That people resist change has long been established. When confronted by the unknown they tend to go into "freeze, flight, or fight" mode behavior. Resistance to P2P is inevitable at the executive level, at the managerial level, and at the functional worker level. It is helpful to have a champion in your corner , someone preferrable at the executive-level or managerial level unafraid to initiate proactive change, and who will back up the Lead when things get tough at the executive level.

However, there is a certain sort of individual who believe that it is better to ask for forgiveness than to ask for permission. I am one of those sorts - which has gotten me into trouble as many time as it has garnered praise. Unless there is some obvious reason to be cautious, I tend not to ask permission, I just do it, and become my own champion. I find it is easier to find a formal champion after success has been established; *"success has many fathers while failure is an orphan"* is proverb.

That approach may not be for everyone. The safer path is to get permission. The Lead should put together a draft P2P plan, leaving empty with a "To be determined" notice whatever information they do not have. The Lead should pay particular attention to the Assumptions, Constraints and Risks, the Performance Measures/Outcomes, and the Quality Control sections. There needs to be definitive demonstration of careful thought and independent effort. The Champion role should be included in the draft's Roles and Responsibilities section.

The draft P2P plan should be completed before a prospective champion is approached, and should be plainly marked as a draft. It is wise to approach the prospective champion verbally to ascertain their receptivity to the idea of P2P in general, and as it applies to the Lead's group in particular. With the plan should be a accompanied with short memorandum asking for guidance, rather than sign-off, and appropriately formatted, dated and signed.

5.0 CONCLUSION: THE BENEFITS OF P2P

Peer-to-peer training is not a panacea. It will not cure bad management, bad decisions, or bad luck. Nor is it being suggested here that organizations and their managers become social workers, and save every employee. Nor is it suggesting that employees who do not, can not, or do not wish to meet the skill set levels that the business requires of them to perform be given a free pass. However, it is the contention of this paper that if P2P is realistically and diligently applied it will result in better trained, better motivated, more creative, self-secure, and happier workers who will be ready to take formal leadership roles when they are called upon to do so.

It is the contention of this paper that using P2P is a better way to train employees, a better way to retain employees, and another way to assure that future leaders learn the right lessons.

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