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ABSTRACT

An innovative method for teaching creativity and leadership to adults was presented to engineers and executives within a high-technology corporation who wished to overcome fear of failure and the inhibiting influences of stress within their industry. The methodology developed was based upon prior research conducted in the area of self-directed adult art education. The workshop started with "lizard therapy," a way of reframing the conference room and its inhabitants. Each participant was given a template of a lizard that they were to cut out and color. They then placed their lizards on a picture of a stone wall in areas of their choosing. The participants created a colony and then talked about life as a reptile and why each lizard inhabited a specific location on the wall. Although the participants were initially baffled, they became totally involved in the activity. The exercise helped the engineers to think more creatively, as several expressed in their end-of-workshop evaluations. The course highlighted the importance of modifying the corporate culture through collective individual behavior so that the environment could become more hospitable to creative behavior. It demonstrated that having fun at work and acting creatively were compatible with being professional and productive. (Contains 12 references.) (KC)

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A TEACHING CASE STUDY WITHIN A HIGH-TECHNOLOGY FIRM

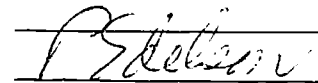
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Abstract

In this paper an innovative method for teaching creativity and leadership to adults is presented. The participants were engineers and executives within a high-technology corporation who wished to overcome "fear of failure" and the inhibiting influences of stress within their industry. The methodology developed was based upon prior research conducted by the author in the area of self-directed adult art education.

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Introduction

In a recent paper, "Self-Direction in Adult Art Education (1995)," I write about developing a new model for adult art education that is less disciplinary in emphasis and instead based more on self-discovery and finding personal meaning through art. I challenge adult art instructors (all instructors for that matter) to acknowledge a fundamental kinship with their students on the most basic level of questing for personal truths and understandings. This I consider to be the essence of great teaching and learning in any subject area.

In that essay I draw attention to what I perceive as an unsettling development- the triumph of credentialization of learning in the creative arts. The danger, of course, is that education-for-the-credential will displace the search for the real thing- the development of artistic creativity which is itself, a unique, elusive, and even vague entity. Perhaps more insidiously this approach discourages students who do not seek a credential, but who just want to improve and develop their creativity. In fact I wonder if one of the principal roles of higher education- as serving as an entry point to the world of the professions- has gone too far so that it has supplanted other more important, basic goals.

If we try to think of the university as a training ground for poets, novelists, lyricists, or artists of any type, we come squarely up against the limitations of our professionalizing philosophy and approach to education. Higher education as preparation for careers in these areas has emerged because apprenticeship as a

teaching/vocationalizing mode now operates in a more limited way than in the pre-modern era. Colleges and universities are predominant institutions where young (and old) people come to learn and develop skills having evolved into sites where arts education takes place and appropriate professional degrees conferred. But what is missing is the direct connection to practice which the old apprenticeship system provided so well. In short, graduating with an arts degree does not make one an artist.

Moreover, although we really don't know with anything approaching certainty what makes someone a great poet or painter we rely upon hands-on educational models more suited to training technicians to which we also add, as a form of compensation, intellectual exposure in criticism and connoisseurship. But these approaches fall short of the mark. The rules for correct procedures in art do not exist in the same way they do for other professions or vocations. We do not know why some art has the power to move and change us although numerous competing theories exist to account for our tastes. Martindale's (1990) "law of novelty" is one example. To approach art scientifically takes us further away from the power which animates these spiritual expressions. Similarly, relying upon intellectual analysis means constructing passageways which though they may draw us closer to some understandings, direct us further away from others. These are the subjects I would like to touch upon in this paper- teaching, creativity, and cultural development- and their many implications for adult education.

Teaching and Creativity

On the subject of educating would-be future artists Getzels & Csikszentmihalyi (1976) studied art school students. The art school fulfills its role as a socializing force acculturating students to the life (and life style) of art. These values include art-for-art's sake, an open sensibility, independence/alooofness from social standards, and a premium upon "creativity." The norms of this sub-culture are partially conveyed in classes, but largely through an "extra curriculum" and student culture (Horowitz, 1987). The art school is highly "values" embedded

in this way through a total immersion approach. Regrettably, it is not a viable model for others who cannot attend this type of institution full-time especially the growing population of part-time students (young, old, middle-aged) for whom the promise of full-time study in a specialized art institution is a hard to attain dream. For this group there is less than the half-loaf of technique, without the benefit of a strong sub-culture which is largely student maintained and delivered as self-education, or an inspired teaching that rises above mechanical manipulation of artistic media or tools.

In most arts curricula the emphasis on teaching technique and "discipline" results in a difficult landscape for adults who are not professionally focused. In my paper on "Self-Direction in Adult Art Education" I draw the distinction between "artwork" and "artplay" dichotomizing between the professionalizing, work oriented, vector of art credentialing and the desire of most adult students (including younger non-art student majors as well) for experiences in art valued as extending personal development beyond the rational/intellectual realm proffered in modern higher education. My paper questions a rules oriented "right way/wrong way" pedagogy which I believe is incapacitating for creativity.

So the issue I wish to address in this paper is enhancing educational environments for students so that they can increase their creativity. I see this as an important challenge for all of higher education, not just in what we have come to refer to as the creative arts.

By creativity I mean the ability to innovate or invent something new. Initially, my own area of focus was adult art education. This preoccupation was tied to my own personal rediscovery of making art which had been submerged for over thirty years and wanting to be more creative myself. Then I applied it to leadership studies, another area of interest. I teach graduate and extra-mural courses on leadership, wanting to be a better, more creative leader. Combining both themes, I taught a short course this winter (February, 1996) on "Creativity and Leadership" to engineers and senior executives for a Long Island high-technology firm. This

provided the opportunity for me to try out some of my developing ideas on teaching creativity and leadership which I will share with you later.

Discussions of creativity parallel how we have tended to view leadership. Initially, for both subjects, trait theory dominated, an attempt (out of the discipline of psychology) to identify the psychological characteristics that account for successful creativity or leadership. This approach derived from a fascination with "great" creators and leaders and a desire to model after them. Parallel to this development was the tendency to see creativity as a type of measurable trait (like intelligence) that could, first, be identified and then, subsequently tested for. But now a more complex culture and contextually oriented approach to both subjects has emerged. This is the major leitmotif of the current research and writing on creativity, a systems perspective (Feldman, Csikszentmihalyi, & Gardner, 1994) that looks at the interplay between the individual and the content area, or domain, and its subfields. So to understand creativity compels us to analyze the individual within the domain/field at a particular point in time. It is not so much a question of "who" is creative, but of "how" a person can act creatively; "what" is considered creative, and "where" is creativity taking place?. Approaching creativity in this way places an equal emphasis on society, culture, the individual and the interplay of all these factors.

One irony of creativity is that the field may select a person as uniquely creative long after he/she is dead, completely ignoring him/her while alive. This tendency is notorious in the arts where people come in and out of fashion on a regular rotating basis, but also a feature in scientific communities as well (Altman, 1995). Kuhn's book (1970) on scientific revolutions and the concept of the "paradigm shift" has furnished a handy metaphor for describing the cataclysmic changes in perspective that take place within a field when old ways of viewing phenomena are rejected for new. Gardner's book Creating Minds (1993) provides blueprints of how seven creative geniuses accomplished their feats and the creative systems each developed (composed of followers and strategies) for getting their new cultural inventions accepted.

Gardner, as you would guess, deals with the issue of milieu- especially Paris in the early 20th century and other European capitals where modernism and the concept of an avant-garde erupted out of established beaux-arts traditions in many different fields. We see the same phenomenon in NYC after WWII with the triumph of abstract expressionism. It is a fact that certain places become breeding grounds for creativity owing to a critical mass of like minded people. Thus, it is very hard to deny the importance of place in creativity. Often we get to feel ourselves that we could be more creative in certain universities or settings composed of other creative people sharing similar interests.

In complex organizations we have the related concept of the "assembly bonus effect" (Bass, 1990, pp.611, 621). Simply put, in well run, well led organizations individuals can be more productive. And the converse is also true: We are less productive in poorly run organizations. This has significant implications for creativity and for increasing creativity in the workplace.

An Experiment in Teaching Creativity and Leadership

This winter I was presented with the opportunity to teach a course on leadership for an electronics engineering firm as a component of a New York State Defense Diversification Act Grant. The purpose of this initiative is to assist high-technology, formerly defense industry oriented companies, to redirect their productivity to peacetime industrial production. The firm I was to be working with designed high-technology microelectronic components for military use and was now trying to develop product applications in transportation and health technology fields.

Prior to the start of the course I met with the President of the company to exchange views on workplace continuing education. He believed that his senior level employees needed to overcome "fear of failure" and increase their risk-taking behavior in order to move the company forward into new product areas. I subsequently fused my interests in creativity and leadership developing a seminar incorporating both subjects.

High-technology industries are racked by uncertainty. There is a continuous shake-out and consolidation in the field now that the number of defense contracts has dramatically declined as an outcome of "cold war" abatement. Uncertain markets, rapid introduction of new products that can make older ones obsolete overnight, and a premium on creativity and the development of unique inventions for which the supplying company is "sole source" produce an uncertain, stressful environment where the risk of making wrong decisions can inhibit both personal and professional growth.

The seminar participants were eighteen engineering executives including all the Vice Presidents. With one exception, they were all male. Also participating was the company President.

The setting for the seminar was a typical large, serious looking conference room with an imposing dark wood executive conference table. The room featured the usual technological accoutrements: video monitor, overhead projector, screen. But incongruously, two end walls made of irregularly sized, rough-hewn stones introduced a rugged, outdoors quality that was out of place in this almost antiseptic technical environment. When I saw these stone walls I wanted to clamber up them; there were numerous outcroppings and hand holds. Strangely, their cragginess reminded me of the coral reefs in Curacao, from where I had just returned from a brief winter vacation with my family. Those reefs were teeming with crabs, lizards and other varieties of tropical flora and fauna. I unexpectedly experienced a Gestalt perceptual insight making the conference room walls the centerpiece of my course.

I had been thinking about this seminar since I had agreed to do it several months earlier. At the same time I was developing a new full-semester course on creativity and here was the chance to test my ideas. The unique challenge was to present creativity and leadership in one program helping students to grow in both areas. Up until walking into the conference room I hadn't an inkling where I would be heading. I needed a solution that would make the seminar different, exciting, fun, and useful combining elements of theory and practice, not just a training workshop which I

definitely did not want to conduct. I intuitively felt that these senior people had experienced a great deal of traditional, academic oriented, training and were somewhat jaded about being exposed to outside experts, especially those from the university who condescended to visit the corporate world. I knew I would have to do something really special in order to have any impact upon them. Ultimately the seminar I developed for them combined aspects of creative play, both individual and group, getting them to move from personal to corporate issues, trying to join experimentation, creativity and leadership in one unique package.

I wanted them to see themselves as more malleable, and creative, as "works in progress" and to see the firm in a similar way, as a place where elements of fun and play could be incorporated decreasing tension and enhancing experimentation. Creativity needs this freedom to experiment, a "what if" dimension and the possibility of having fun for its own sake. This company had few opportunities for celebration. It was a very hard working place characterized by unrelenting pressure to be productive. It had emerged from a recent history of painful downsizing with a grim determination to stay alive and competitive which was showing positive results. The company had ambitiously embarked on a strategy of corporate reengineering creating a new customer service unit and now had the desire to go further in staff development. Within this stressful milieu I wanted to evoke more pleasant associations and also stimulate them to experiment, take risks, and develop their self-confidence. Recapturing the creativity of childhood is a theme in The Artist's Way (Cameron, 1992) creativity manual I had been following for several months and which had helped me in my painting. The book provided me conceptual base, albeit unorthodox, for my seminars. For each participant I provided a bag with toys including scissors, fun tack (a type of putty for affixing objects to walls), and colored markers. I wanted to teach them in a different way which might enable me to cut through years of debilitating stress and inhibitions. The classroom environment is so artificial to begin with; this artifice is a true bonus in that the class can be imaginatively shaped as a make-believe world of adventure promoting growth.

Some of the issues we addressed in this three session, nine hour course included:

- . areas in which students wanted to be more creative, either at home or at work
- . obtaining more freedom at work in order to facilitate creativity
- . implementing changes at work as a result of creativity

These last two items included some exposure to negotiating strategies in order to improve chances of success.

I started with what I now call "lizard therapy" which was a way of reframing the conference room and its inhabitants. I had prepared for each a template of a lizard which they were asked to cut out and color. They were then to place their lizards on the stone wall in areas of their own choosing. This activity was deliberately structured as a child's exercise. Indeed the bag of toys, the scissors and colored markers were intended to evoke this "age of innocence." Tapes of unusual music (folk songs of Tibet, reggae) and incense also helped to distant the classroom in its new incarnation from the rationalized corporate world.

After placing the lizards on the wall and in effect creating a colony, each had to identify his or her lizard and talk about life as a reptile- why certain colors were selected, likes and dislikes, hobbies, and why each inhabited a specific location on the wall. Other lizard exercises also took place which addressed creating community and responding to crises.

As the exercises unfolded students, initially baffled by the fantasy of living as a lizard on a tropical reef (it was the dead of winter on Long Island), became totally involved in the project. The lizard communities (I had arbitrarily created three) had their own names and themes given by participants and the classes were very lively with much student participation in the exercises which emphasized imaginative responses to unforeseen events.

My initial fear that these senior engineers would refuse to play was unwarranted. The metaphor of being a lizard enabled

them to think more creatively about themselves and also permitted them to open up about themselves to their colleagues. Whyte (1994, p.285) writes about the importance of bringing a "fuller measure of ourselves into the workplace" as a means of successfully coping with the complexity of the modern corporation. The creative and unusual environment provided in the seminar became a context for bonding which was essential for the creative solutions of other projects. I was hoping that they would never see the room in the same way again; that it would become less intimidating and stultifying.

The students suggested that I add a section of the course on negotiations and negotiating skills. They wanted to move into the practical realm of implementation of their creative projects. Earlier, with the aid of a planning grid, I had helped them conceptualize various elements in operationalizing new ideas at work. Negotiation strategies were implied as a key element of that process.

The course helped them think more about being creative leaders at work shaping environments, perhaps the "soul-based organization" referred to by Whyte (1994, p.296), more conducive to creativity for themselves and their staff members. It demonstrated the importance of imagination and the personal freedom to experiment, and it provided some exposure to the negotiating tools essential for developing consensus. End of class evaluations contained the following comments:

"Allowed the space for us to be creative...Caused me to remember that it's OK to be wrong."

"It showed me the importance of being creative and the need to ease up, take a chance, and to create a less stressful environment for people around me."

"I see the importance of thinking freely, not being afraid to take risks."

"Creativity is a necessity in everything we do, facilitating a thought process that is receptive to change."

"I am now thinking about what additional freedom at work would produce and how to possibly attain it."

"Let your mind free-think."

"The instructor kept my interest for the three hours each session (few in the past have succeeded)."

Conclusions

Clearly it is too early to know or even assume any lasting effects from this very short program. Based upon the end of class evaluations the response was highly positive but there is a need for longitudinal analysis that applies objective and neutral outcome measures. In truth, how many of us have had our lives changed by a single course? An incremental view of human development ascribes causation and change to multiple stimuli. These educational activities which are fragmented, episodic, and brief can only serve as a link in the larger chain of life. Hopefully, a developing interest in creativity by these students can serve as a basis for further self-directed study in their own lifelong learning programs.

The course highlighted the importance of modifying the environment (corporate culture) through collective individual behavior so that it could become more hospitable to creative behavior. It demonstrated that having fun at work and acting creatively was compatible with being professional and productive. A creative environment is an exciting, enjoyable environment. When people are creative, they can experience flow, a total involvement in their tasks. This experience is pleasurable, and leads to high level problem solving (Csikszentmihalyi, 1990).

Why not make creativity the centerpiece of all instruction? The implications for adult art education are dwarfed by additional applications of creativity throughout the curriculum. We are only limited by our imagination.

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