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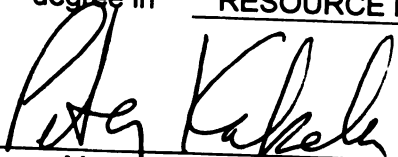
LOOKING INTO CHAOS: PERCEPTIONS, INTERACTIONS
AND STRATEGIES OF DISAFFECTED MALE
UNDERGRADUATES

presented by

CAROLE FAYE LAXTON ROBINSON

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of the requirements for the

DOCTORAL degree in RESOURCE DEVELOPMENT



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**LOOKING INTO CHAOS:
PERCEPTIONS, INTERACTIONS, AND STRATEGIES
OF DISAFFECTED MALE UNDERGRADUATES**

By

Carole Faye Laxton Robinson

A DISSERTATION

Submitted to
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ABSTRACT

LOOKING INTO CHAOS: PERCEPTIONS, INTERACTIONS, AND STRATEGIES OF DISAFFECTED MALE UNDERGRADUATES

By

Carole Faye Laxton Robinson

Using concepts from chaos, complexity, quantum theories and dynamic systems theory as tools, this study explored the perceptions, interactions, and coping strategies (in both academic and social experiences) of eight disaffected male undergraduates from a large, research intensive, land-grant university in the Midwest. The intent of this study was to introduce new ways of perceiving, discussing, and describing the complex processes of engagement, connection, transformation, and self-organization of disaffected male undergraduates.

Data was gathered by conducting two semi-structured interviews with each subject over four months, by analyzing original compositions and secondary data, and by administering a psychological tool, the Myers-Briggs Type Indicator. Analysis was by the Ad Hoc meaning generation method. The write-up of findings is in the form of ethnographic performance, comprising a three-scene play.

Disaffected male undergraduates in this study were or had been frustrated and disillusioned with their academic experiences and with prevailing academic practices. They felt forced to adapt, felt different from their peers, and found it difficult to stay

engaged and motivated. All the disaffected male undergraduates had the similar personality preferences. Six of eight were INFP, and two were INTP and ENTP. They were among the merely one to five percent of the population characterized by such preferences. All had very clear to clear preferences for Intuition.

The study leads to several recommendations: To provide greater support and incentives to disaffected male undergraduates, administrators and other professionals in higher education need to realize that a single educational approach does not fit all learners. Disaffected male undergraduates will benefit from a greater variety in pedagogical approaches, from alternative learning environments and communities, and from opportunities to rejuvenate and recreate away from school during credit-producing sabbaticals.

This study contributes another voice on the application of chaos and complexity sciences to the dynamics of human behavior and the processes of learning and teaching. This study augments the discussion of alternative ways of viewing the phenomenon of disaffected male students and may stimulate alternative approaches and practices for change in higher education.

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Carole Faye Laxton Robinson
2004

This dissertation is dedicated to:
my mother, Maxine Laxton, a naturalist and lifelong educator;
my father, Carl Laxton; who was a futuristic thinker;
my children, Brett, Cristi, and Cari Chapman;
Keagan, who already loves discovering
the wonders of nature and the joy of learning;
and in memory of Sydney.

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CHAPTER ONE:

INTRODUCTION

Background

As a young child and daughter of an elementary school teacher with unconventional teaching methods, I would trek with my mother into what I considered to be the wilds to gather specimens to take back to her classroom. Her style of teaching and learning was very different from the norm then. Experiential, hands-on, emergent, and learner-centered learning was out of sync with the educational pedagogy of the time. But it seemed a very natural way for students to engage in their learning—simple, yet resulting in complex impacts on her students and on me.

My mother emphasized science, nature, and engaged learning in her classrooms. She saw how everything in nature had a role and was part of a dynamic system. She made her classrooms interesting and kept her students engaged by having scattered about the room such bits of nature as rocks, minerals, fossils, old birds' nests, spiders and their egg sacs, spider webs, cocoons, caterpillars and myriad living creatures. I would go with her to collect her treasures; tramp through muddy creeks searching for abundant caddis fly larvae twisting and wiggling in their twig houses; drive along country roads, walk through woods and across fields to find the then abundant cocoons of butterflies and moths. She would find caterpillars attached to twigs or leaves, put them into a screened box along with plants to represent the natural environment in which they lived, and into the classroom they would go. Students would watch caterpillars spin cocoons and

metamorphose into beautiful moths. She later freed the moths in the areas where she collected them so they could repeat the cycle.

Through these experiences, I learned about our embeddedness in natural systems, alternative teaching practices, and classroom activities that promoted engaged learning.

Ever since early elementary grades, I've been intrigued with human behavior and personality and cognitive psychology. I would invite friends to take various informal personality and cognitive tests to provide clues to our similarities and differences. I soon discovered that we had diverse personality, cognitive, and learning preferences. I continued to learn about personality and various other areas of psychology throughout my life and through my studies in college.

My passion for art led me to begin my formal academic journey as an art major but I later changed undergraduate majors to obtain a Bachelor of Arts degree with dual majors in English and Psychology and emphases in Political Science and Studio Art. I obtained a Masters of Science degree in Resource Development where I studied and practiced dynamic systems modeling, ecological and community psychology, and organizational change, and deepened my thinking about approaches to teaching and learning in higher education.

When I became a teacher in an interdisciplinary, undergraduate, core course in environmental studies that I co-designed, co-developed, and co-taught from 1996 to 2003, my experiences provided me insights into students who came to environmental studies programs. Weekly reflection papers based on required readings about teaching and learning styles, creative and critical thinking, and multiple dimensions of

environmental issues replaced exams. In those reflective essays, students revealed their worldviews, values, beliefs, hopes, opinions, and frustrations.

Environmental studies majors, I began to perceive, had many similarities in worldviews, values, beliefs, attitudes, frustrations, and personality preferences, and males, I found, had especially striking similarities. I observed patterns not only through reading their essays, but also through a psychological instrument that I administered to the students, the Myers-Briggs Type Indicator (a personality sorter), through my participation in class discussions, and through conversations held during field trips. How environmental studies majors viewed the world, their preferences for thinking and learning and interacting with others soon became evident.

At the beginning of each semester, I would see few signs of disaffection in the students. They generally seemed to go with the flow—they attended class, participated in discussions, and all seemed to be well with them, but over time, as I read their weekly reflection papers and heard their responses, or their silences, to issues brought forth in class, I began to hear the undercurrents, the skipped beats, the quiet moments of revelation. I recognized that there were some things that some students wanted to say, but were not saying. And there were students who wanted someone to listen to them and actually *hear* what they were saying, especially the males. They wrote and spoke about some of their especially meaningful learning experiences where they were engaged in deep learning. Students recalled some joyful learning experiences in high school, but they had enjoyed few in college. I wanted to hear and learn more about other male undergraduates in other environmental studies programs.

At that same time, I was immersed in learning about dynamic systems and what are often referred to as the new sciences—chaos, complexity, relativity, and quantum sciences and their applications. I associated all this new learning with the principles my mother demonstrated in her teaching, and I realized I could use this learning to help understand the disaffection of male undergraduates, and further, could use my understanding of male undergraduates to develop valuable insights about the interactive processes I learned to love as my mother’s daughter: the process of education. I had found a subject worth years of devotion and one suited to my own identity, one that I could handle with energy, dedication, and sensitivity.

We often research what we most want to discover about ourselves—we seek answers to our own inner dissonances in the dynamic interactions of the greater community. In such a context, the emerging epiphanies and patterns are as much insights into our collective souls as they are into our individual souls. I decided to conduct a study of disaffected male undergraduates because I sensed that their educational system was failing them. Having decided to study disaffected male undergraduates, I faced three main tasks: designing the study, gathering the data, and interpreting the data.

Research Design

This is a qualitative, naturalistic, constructivist, interpretivist inquiry into the interactions among dynamic, complex systems of disaffected male undergraduates embedded in an environment that is often turbulent, always dynamic and fluid. This study explores the perceptions, interactions, and coping strategies of eight undergraduate males

in environmental studies programs in a large, research intensive, land-grant university in the Midwest.

The following table, Table 1-Overview of Research Design, is an overview of the general research design including sampling procedure, general description of the participants, kinds of data collected and how it was collected, and the time frame of data collection. A more detailed description of the data, data collection, and data analysis appears in Chapter Three: Methodology, along with discussion of my epistemological, ontological, and axiological stances.

OVERVIEW OF RESEARCH DESIGN

Sampling Procedure: Self-Selection

- Male undergraduates self-selected into the study.
- Does not jeopardize advisor-student confidentiality or faculty-student confidentiality
- Ensures those who participated had things they wanted to say about their experiences.

The Invitation

- Sent e-mail inviting sophomore to senior male undergraduates in environmental studies programs, stating the study's purpose and what I expected. (See Appendix A.)
- Undergraduate advisors (in 3 departments and learning communities) forwarded my e-mail invitation to their students; I sent invitations to specific students.

Participants

- 8 students from 3 environmental studies programs or learning communities self-selected out of a possible three hundred male undergraduates.
- Participants ranged in age from 19-27 years; sophomore to senior year in school.

Time Frame for Data Collection

- September 2003 to December 2003

Interviews:

- 15 Interviews: 2 semi-structured interviews with open-ended questions per participant: 7 participants interviewed twice, 1 participant interviewed once.
- Interviews lasted 1- 3 hours, although scheduled to last only about an hour.
Interview #1- There were 10 semi-structured questions based on concepts from chaos and complexity theories. Question #10 was unstructured.
Interview #2 - Semi-structured questions were based on emergent themes from Interview #1. Custom-designed questions for Interview #2 with the exception of 4 identical questions.

Original Compositions

- Reflective essays: 10; original poetry: 2; photographs: 20; 35-Page Learning Reflection
- Music: 1 CD

Researcher's Methodological Journal, Field Notes, and Memos

Psychological Instrument: Myers-Briggs Type Indicator-Form M

Data

- Bulk of data came from the interviews

Ad Hoc Methods of Analysis

- Content Analysis
- Photoanalysis
- Repetition of Words
- Metaphor and Schema Analysis

Write-Up as Performance Ethnography and as text

Table 1-Overview of Research Design

Intentions

I intended to introduce new ways of perceiving, discussing, and describing the complex processes of engagement, connection, transformation, and self-organization of disaffected male undergraduates in higher education. I use the term “disaffected” in this study to indicate a mood of disengagement, disconnection, withdrawal, or disinterest.

I also intended to create a space to hear the voices of the few—those voices that may not be heard amid the din of the voices of the majority or acknowledged during the university process of producing graduates.

I explored how male undergraduates relate to others, become engaged in learning, create, respond to, or withdraw from new experiences, and the unknown. I explored the developmental processes of the dynamic system that the “self actively creates” by hearing their stories of their lived experiences firsthand (Astor, p. 12).

The truths I discovered I now make available to those in positions of power in American universities, hoping that they will consider these truths as they plan for the universities of tomorrow and consider these truths as they create the classrooms of today; to faculty so they can consider their teaching pedagogies and seek new alternative ways to teaching and sharing learning with their students; to their community and families, and to the students themselves, hoping that these insights might increase their self-awareness, their feelings of engagement, and their sense of control, and perhaps to contribute to a second student revolution.

Significance

This inquiry will contribute another voice on the application of chaos and complexity sciences to the dynamics of human behavior and the processes of learning and teaching. Since there is a paucity of literature on disaffected males in higher education, this use of new sciences to illuminate them makes that contribution especially significant. Further, this inquiry will add to the discussion of alternative ways of viewing the phenomenon of disaffected male students and may stimulate alternative approaches and practices for change in higher education.

Although student retention was not my area of focus in this study, emerging insights from this study may be helpful to administrators and others who are concerned with keeping students in higher education, especially male students. Moxley, Najor-Durack and Dumbrigue (2001) say:

To promote retention and persistence of students, higher education must appreciate the diversity of educational opportunities...and how... [students] want to take advantage of these opportunities, student demographics and backgrounds, how students undertake their educational careers, and how students learn and achieve educational outcomes. (p. 31)

These authors claim that “students face different issues and experience them in different ways,” (p. 31) and that “assisting one student at a time” (p. 40) is the only way to increase retention in school. Moreover, these authors take a student-centered approach and believe that *the student must be involved with both the process and the outcome* of student retention (emphasis added), and suggest that faculty, others inside the university, and those persons in the community are also responsible for helping students, as Levine (2002) puts it, a mind at a time.

Organization of the Study

The present study has five chapters. In Chapter One: Introduction, I describe how and why this study emerged. In Chapter Two: Review of the Literature, I survey representative books and articles relevant to my study. In Chapter Three: Methodology, I describe my methodology for the study including means of data collection and analysis. In Chapter Four: Findings, I reveal and demonstrate the findings and implications of the findings through performance ethnography, a play in three scenes. In Addendum to Chapter Four, I describe introduce findings and through text. In Chapter Five: Implications, Insights, and Recommendations, I offer recommendations for current practice and future research, and also offer comments on the cultural significance of the difficulties, disturbances, and turning points that I have discovered.

Unresearched Topic Of Disaffected Male Undergraduates

No one has specifically studied disaffected male undergraduates in the United States, or elsewhere that I could discover, much less disaffected males in environmental studies programs. No one has used the lens of the new sciences to gain insight into disaffected males, or disaffected males in higher education.

There are numerous publications on disaffected students in general in primary and secondary education in the United Kingdom (Riley & Rustique-Forrester, 2002). There are gender studies on the shift in levels of achievement between boys and girls; and studies of child development with emphasis on the individual in the context of systems, including the child's family (Rosenblatt, 1994; Fitzgerald, 1999).

An Environment of Complexity, Accelerating Change, and Turbulence

Most of reality, instead of being orderly, stable, and equilibrated, is seething and bubbling with change, disorder, and process.
Prigogine & Stengers (1984, xv).

I decided to think in broad terms about the realities of our world today. Our world is more complex now than ever before. Not only have our social systems become “tremendously *diversified*...because of their accelerated interaction, they have also *become more complex at an accelerating rate.*”¹ We exist in complex, interconnected, organic, and dynamic systems, and we *are* dynamic systems. Our relationships, perceptions, values, emotions, ideas, choices, coping strategies—all our life processes are embedded in and emergent from our complex interactions with dynamic systems.

Change, even turbulent change, is a part of our everyday lives. Transformation on multiple levels emerges from such change and turbulence. Moreover, transformation will occur only in systems that are far from equilibrium, or chaotic and complex. There are intricate patterns and rhythms, ebbs and flows, whirlpools, chaos, and complexity found in such systems, including human systems.

One may prefer to explore areas and topics that are familiar, easy, in equilibrium and comfortable, but by doing so one leaves mysteries unsolved and perpetuates the “ignorance about disorder in the atmosphere.” As James Gleick (1988) says

Where chaos begins, classical science stops. For as long as the world has had physicists inquiring into the laws of nature, it has suffered a special ignorance about disorder in the atmosphere, in the fluctuations of the wildlife populations, in the oscillations of the heart and the brain. The irregular side of nature, the discontinuous and erratic side—these have been puzzles to science, or worse, monstrosities. (p. xi)

¹ Geyer, F. & van der Zouwen, J. (Eds.) (2001). *Sociocybernetics: Complexity, autopoiesis, and observation of social systems*. Westport, CT: Greenwood Press, 2.

Exploring the “irregular side of nature” (p. xi) may provide us with insights that would not otherwise be known. This is an inquiry into the “disorder in the atmosphere” of a turbulent and complex university; into the “oscillations of the heart and the brain” (p. xi) of male undergraduates in environmental studies who experience chaos in their academic journeys; into the individual and community perceptions of the “irregular” or “erratic” male undergraduate; and into the relationships among these forces.

Medium for the Inquiry

Chaos, complexity, and quantum physics provided me insight into the lives of those who are in the process of self-organization and self-discovery. Oscillations, sensitivity to initial conditions, bifurcations, strange attractors, self-organization, emergence, fractality or self-similarity, entropy, criticality, and autopoiesis are all concepts from chaos and complexity theories, and are inherent in dynamic systems, including human systems. Human systems are driven to self-organize. Vladimir Dimitrov (2003) suggests that:

The unfolding of each individual life is driven by an inherent urge towards self-organization: self-finding, self-realization and self-fulfillment. By studying the ways this urge is manifest: its origin and characteristics, its stimulators and impediments, catalysts and inhibitors, factors which support, sustain, impede, or block its inward and outward realizations, we are able to understand human society in a much deeper way than if we continue to study it as an object. (p. 1).

Although one can never fully understand a dynamical system because it is fluid and constantly changing and adapting, one can study living systems. Understanding a living system, suggests Fritjof Capra, includes looking at its patterns, processes, and structure.

Human systems self-organize around various inherent operating principles including personality, in part, and the choices we make in our day-to-day life. Small changes in the way we think and make choices can “bring forth radical transformations in the overall dynamics of our life,” says Dimitrov (1998). Everyday choices we make create patterns of behavior, emotional responses, and contextual impacts.

Internally, familiar and preferred patterns of behavior may guide our thinking, feelings, and actions, but an unknown and emergent quirk in routine or external stressor may occur and throw the entire system into a different state. The patterns of behavior may generally be the same, but given the quirk in the system of the individual or the environment, the whole state is altered, and may suddenly shift directions due to context, strange attractors, and interaction with other systems.

When everything in our lives seems to be going smoothly, one may wonder why or may not even notice the sameness; equilibrium cannot give rise to chaos and complexity. One can accept the conditions of current flow, and think that is the way things should be simply because it *is*, or, one can probe beneath the surface, and in so doing, create ripples and eddies that disturb the tranquility. As one probes deeper and dips and sloshes around to get to the depths below, the environment is suddenly altered.

One who probes creates an impact, unintended or intended, due to the active role one plays as observer and explorer in a dynamic context, and becomes part of the system: “Object, observer and observation are re-conceptualized not as separate categorical systems but as swirling interacting parameters of those systems” (Kuhn & Woog, 2002, p. 6). Our experiences in participating in the present study will impact the lives of both the participants and me. Our perceptions, ideas, and behaviors will change as a result of

speaking aloud and thinking about significant frustrations, desires, and lived experiences. Even though participants volunteered to be a part of this study, I wondered how their participation would affect them. If we are all part of a large system, any interaction or exchange has impact. How will their involvement in this research impact the participants, their thinking, learning, and the choices they make?

Research Questions

Two main research questions drive my explorations in this study. They inform each other and yet stand alone: they are at the same time connected and distinctive. They are:

1. What can concepts from chaos and complexity sciences tell us about the phenomenon of the disaffected male undergraduate in environmental studies?
2. What social and individual forces, contexts, and experiences help to shape the disaffected male undergraduate in environmental studies?

The first question focuses on applications of the new sciences to explore the complex processes of human behavior, cognition, and emotion in higher education as they reveal themselves through individual perceptions, attitudes, and coping strategies. This is an outside-in approach.

The second question focuses on the individual's perception of these systems and his lived experiences: the disaffected male undergraduate in environmental studies. This is an inside-out approach.

Turbulence, Turmoil, and Change

The iterating of these lines brings gold;
The framing of this circle on the ground
brings whirlwinds, tempests, thunder and
lightening.

Marlowe, *Dr. Faustus*¹

Young undergraduate students must cope with many physical, psychological, social, financial, and environmental dynamics and changes (Fisher & Cooper, 1990). Older undergraduate students may cope with additional changes and transitions, among them, becoming a spouse, having children, being responsible for caring for a sick or elderly parent, sometimes being ill themselves, being taken off their parent's medical plans because of their ages, having to fend financially for themselves, leaving parents and old friends behind as they go off to school at a location away from home (Fisher & Cooper, 1990).

Knowledge and wisdom transform people. Often when students leave home to attend college, they find they are forever changed. Emotionally, students leave home when they enter college—often to learn things their parents may never know or understand, ever care to learn, or value differently. When undergraduates return home with different feelings, worldviews, and social networks, they may be strange to family and friends. Feeling misunderstood, a student may become alienated from friends and loved ones (Fisher & Cooper, 1990).

Students, especially international students, may also experience a sense of culture bereavement and homesickness (Eisenbruch, 1990). Social scientists have found that rapid social change may have adverse effects on health, called health transition

¹ Quoted in Gleick (1988)

(Eisenbruch, 1988; Erickson, 1976; Fisher, 1988; Marris, 1986). In a multicultural society argues Eisenbruch (1990), “Cultural bereavement is another manifestation of the transition that is closer to the source: that cultural bereavement explains a connection between disruptions at several levels—‘health,’ ‘interpersonal,’ ‘social,’ and ‘community relations.’” (p. 191).

George Mandler (1990) describes what he calls “Interruption Theory” and connects it to emotional experience. This theory has prompted change in cognitive psychology and development of the schema concept (p. 13). Mandler states that

Visceral arousal follows perceptual or cognitive discrepancies and the interruption or blocking of ongoing actions. Discrepancies occur when the expectations generated by some schema (whether determining thought or action) are violated. This is the case whether the violating event is worse or better than the expected one—and accounts for visceral arousal in both unhappy and joyful occasions. Most emotions follow such discrepancies. It is the combination of arousal with an on-going evaluative cognition that produces the subject experience of an emotion. (pp.13-14)

Unexpected events also produce visceral arousal, negative or positive evaluation, and emotional experience. Situational or life stress is the outcome. Mandler (1990) links Interruption Theory, change, and the transition of place. Even welcomed transition can “produce stress and vulnerability to both physical and psychological distress” because

any change which is not anticipated or which cannot be adequately handled will produce arousal and possible emotional consequences, whether that change occurs in the environment or in the individual’s internal apparatus. The question that must always be raised is whether the new environment produces demands and situations that are different from what the individual expects. (p. 28)

Other external factors contribute to a turbulent environment and stress. Society and communities are in flux, especially schools, in part for the following reason:

- **Budget cuts:**³ With faltering current economic conditions, and budget cuts in higher education, emphasis is shifted even further away from the student. “Federal policy has aimed at expanding tax cuts for middle class families with students in college, but there are fears that the needs of the poorest students are being overlooked.”⁴ “State higher education funding has dropped 15 percent in the last three years,” indicates Michael Boulus, executive director of the Presidents Council, State Universities of Michigan, in a press release, June 7, 2004.⁵ Similar reports were aired February 25, 2003, January 13, 2003, December 31, 2002, and April 30, 2001 and continue today.

Impacts of such change are real and widespread. Change can inspire creativity for some people, can transport others to higher levels of thinking and deeper levels of feeling, and may strengthen relationships among people. It can be a threshold of opportunity as Jack Mezirow (1991, 1994, 1995, 1996, 1997, 2000) states:

We resist learning anything that does not comfortably fit our meaning structures, but we have a strong urgent need to understand the meaning of our experiences so that, given the limitations of our meaning structures, we strive toward viewpoints that are more functional. A more functional frame of reference is more inclusive, differentiating, permeable, critically reflective, and integrative of experiences. (1996, p. 163)

Stress and Coping Strategies

Organized nonsense is already a defense,
Just as organized chaos is a denial of chaos.
D. W. Winnicott, *Playing and Reality*

³ Gonzales, R. (Reporter). (2002, November 29). National Public Radio. [Radio Broadcast]. New York.

⁴ Sanchez, C., (Reporter). (2001, May 23). National Public Radio. [Radio Broadcast].

⁵ Boulus, M. (2004). Press Release. (June 7, 2004). Source: Presidents’ council, state universities of Michigan, suggested higher education budget cut would mean major tuition hikes, enrollment caps, a grim economic future.

When people are stressed and depressed, their bodies secrete hormones that lead to physiological changes. Males and females *respond* differently to stress, physiologically and psychologically, and the way that males and females *cope* with stress also differs. According to Katherine Hoyenga and Kermit Hoyenga (1993), “Both stressed and depressed people often show high levels of cortisol, a stress hormone secreted by the adrenal cortex”⁶ (p. 362). Simply *being* under stress can lead to physiological changes similar to those seen in depression (Ceulemans, Westenberg, & van Praag, 1985, as cited in Hoyenga & Hoyenga, 1993, p. 362).

This has many implications for higher education, especially for males. Male undergraduates, and especially those who have a particular personality type, who are stressed out may become depressed in school.

In animal research that is analogous to human behavior, says Hoyenga & Hoyenga (1993), only the male animals, rats specifically, were able to *adapt* [my emphasis] to environmental stress (p. 362). Hoyenga & Hoyenga, citing research by Stone (1983), further suggest that differences in response to stress in humans may be explained by the increased level of serotonin in females that inhibit their ability to adapt because “females will not show the effects of the first stressor as strongly as males do” (p. 362).

Coping Strategies

Everyone notices and uses coping strategies whether consciously or unconsciously. Lazarus & Launier (1978) say "Coping consists of efforts, both action

⁶ Hoyenga, K. B. & Hoyenga, K. T. (1993). *Gender-related differences: Origins and outcomes*. Boston: Allyn and Bacon.

oriented and intra psychic, to manage (i.e. master, tolerate, reduce, minimize) environmental and internal demands and conflicts" (p. 311).

Individuals may use multiple coping strategies depending on the context of the situation, per Anthony Judge (1992)⁷

the emergence of a sense that no single coping strategy can be relied upon under all circumstances. From this perspective a person, or a corporate body, needs to be able to draw upon a variety of such strategies -- switching between them as circumstances demand. The difficulty is that this posture is effectively sensitive to a higher level of complexity. Communicating and comprehending the set of strategic options then becomes a significant challenge.

Creativity as a Coping Strategy

Participants in this study used creativity as a coping strategy, expressed through cooking and creating new recipes, filmmaking, writing poetry and reflective essays, photography, and self-exploration through travel. Three listened to music to de-stress.

Men and women may respond differently to stress and change. Women may network and communicate with others, whereas men "don't talk," as one interviewee told me. Lewis (1999) describes two kinds of cognitive coping styles, suggested by Folkman & Lazarus (1980): Problem-focused and Emotion-focused strategies (p. 201). Problem-focused strategies involve getting more information to "actively alter a situation," whereas Emotion-focused strategies involve "employing behavioral or cognitive techniques to manage the emotional tension produced by the situation" (Lewin, 1999, p. 201).

⁷ Judge, A. (1992). Future coping strategies beyond the constraints of proprietary metaphors (Brussels, *Union of International Associations*. (1992). (see: <http://www.laetusinpraesens.org/docs/coping.php>)

According to Myers and McCaulley (1985), the Myers-Briggs Type Indicator, MBTI, identifies preferences that are associated with being creative. The combination of Introversion, Intuition, Feeling, and Perceiving is indicative of a creative personality.

Stress and Depression

Humans are creatures of habit, and, for many, change may be stressful. Relinquishing control, trying new things, and being creative, critical thinkers are problematic for some who prefer to maintain the status quo and who like doing things the way they have always been done—conducting business as usual. Some individuals may be unable to adequately cope with such change, and a new environment may produce unexpected and unwanted demands and situations (Fisher & Cooper, 1990).

Depression on Campus

Student depression and mental illness on college campuses is at an all-time high. “Across the country, college counseling centers report they're seeing more students with severe mental illness,” reports Madge Kaplan (National Public Radio, August 13, 2002). Depression, an affective disorder, is also linked to suicide. The issue of increased depression on college campuses prompted the University of Michigan to convene the first national conference on depression on their campus the first week of March 2003 in Ann Arbor, Michigan.

Similarly, in an article on increased incidences of depression on college campuses in the May 21, 2002 issue of USA Today, Karen Peterson reports that

North America's college counseling centers report an increase in troubled students, according to psychologist Robert Gallagher of the University of

Pittsburgh. His 2001 survey of counseling centers shows that 85% of colleges report an increase during the past five years in students with severe psychological problems.

In the same report, the National Institute of Mental Health (NIMH) says stressors commonly found in normal college life are: greater academic demands; new financial responsibilities; changes in social life; exposure to new people, ideas and temptations; greater awareness of sexual identity issues; and anxiety about life after graduation”(p. 117). Hara Marano (2002) cites other stressors including family dysfunctions, sexual and physical abuse, a college population that parallels the general population, and an increasingly complex and competitive world. Even going home for the summer can be traumatic for a student. Because they are embedded in a dynamic system, students must find ways to cope with inner dissonances and external pressures.

Gotlib and Hammen (2002) say that although women experience depression almost twice as much as males, and *attempt* suicide more than males, males are seven times more likely to actually *commit* suicide than females.⁸ In his 1999 call to help prevent suicide, the Surgeon General reports that suicide is the third leading cause of death in young persons between the ages of 15-24 years. In 1996, “more teenagers, and young adults died of suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia and influenza, and chronic lung disease *combined* . . . Important risk factors for attempted suicide in youth are depression, alcohol or other drug use disorder, and aggressive or disruptive behaviors.” Gotlib and Hammen (2002) include “the construct of ‘hopelessness’ as an important predictor of potential suicidal risk” (p. 15).

⁸ The Surgeon General’s Call To Action To Prevent Suicide. 1999. *At a Glance: Suicide Among the Young*. Viewed April 8, 2003. <http://www.surgeongeneral.gov/library/calltoaction/fact3.htm>.

Additional sobering statistics from the Surgeon General's report⁹

- Americans under the age of 25 accounted for 35% of the population, and 15% of all suicide deaths in 1996: The rate for children aged 15-19 was 9.7/100,000, and the rate for young people aged 20-24 was 14.5/100,000.
- The suicide rate in young people has increased in the past few decades: the incidence of suicide among adolescents and young adults almost tripled from 1952 to 1996, although there has been a general decline in youth suicides since 1994. From 1980 to 1996, the rate of suicide among persons aged 15-19 years increased by 14%, and among persons aged 10-14 years by 100%. For African-American males aged 15-19, the rate increased 105%.
- Males under the age of 25 are much more likely to commit suicide than their female counterparts. The 1996 gender ratio for people aged 15-19 was 5:1 (males to females), while among those aged 20-24 it was 7:1.
- The risk for suicide among young people is greatest among young white males; however, from 1980 through 1996, suicide rates increased most rapidly among young black males.

Kindlon and Thompson (2000) report, "Suicide rates for teenagers have more than tripled since 1950. And most of those who die are boys. Boys account for 86 percent of suicides among older adolescents and 80 percent among younger teens" (p. 160). What is happening to our youth today, especially the males? How many untended problems and issues carry forward to their university experiences?

Effects of Stress

Biological and psychological effects follow stress. Researchers (and experienced teachers in the classroom) have already made the connection between the mind and the body, and know that psychological stressors impact the body and the psyche. LeDoux (1996), for example, looks at the neurological aspects of human emotion, and studies how

⁹ ibid

systems in the brain function in response to emotions, especially fear. LeDoux suggests that “emotion and cognition are best thought of as separate but interacting mental functions mediated by separate but interacting brain systems” (p. 69). The emotional brain may respond automatically, but our “cognitive gives us choices” (p. 69). Once we are aware of how we personally respond to stress, we can cognitively make choices.

Although a mild state of stress “may facilitate recall” high levels of stress or fear cause changes in the brain—changes that do not facilitate learning (Restak, 1984, p. 175). The part of the brain first affected by emotional response is the amygdala (a brain structure in the limbic system), what Daniel Goleman (1994) calls the “emotional brain” (p. 4). The amygdala is responsible for fight or flight reactions, fear, and rage. This process causes “downshifting,” and “downshifted learners bypass much of their capacity for higher-order functioning and creative thought” (Caine & Caine, 1997, p. 18). This has important implications for higher education: Reducing high levels of stress is essential for optimal learning and a reason why a creating a safe space and welcoming atmosphere in a learning environment is crucial.

When students feel threatened, they cannot concentrate: “Many teachers report that when students fear ridicule or conflict they can’t concentrate on their work” (Heydenberk & Heydenberk, 2000, p. 168).

Robert Sylwester (1995) states that chronic stress causes “high cortisol levels . . . can lead to the destruction of neurons in the hippocampus associated with learning and memory” (p. 38). Heydenberk and Heydenberk (2000) suggest that “non-threatening, caring learning environments for our children” contribute to their “achievement and psychological well-being” (p. 170).

A recent study done at UCLA reveals that males and females respond differently to stress due to chemical and hormonal changes in the brain. Females reach out to other females to “tend and befriend,” whereas males may withdraw and become isolated. Advisors of undergraduate students have also observed gender differences in their experiences with advising students. One advisor of undergraduates commented to me that males will wait until they are juniors or seniors to come in to get help from the advisor:

Female undergraduates will come into my office to talk to me right from the very beginning. They may not be able to identify the problem they are facing but came in anyway. Males, on the other hand, usually do not come in to see me to seek help until they are juniors or seniors and then if only after identifying what the problem is¹⁰

Wounded Faculty, Wounded Students

Ackerman and Maslin-Ostrowski (2002) apply the metaphor of the Wounded Storyteller by Frank (1995) to school leaders. Just as leaders can become wounded, as Ackerman and Maslin-Ostrowski write of schoolteachers and administrators, I believe that students can be wounded in the course of their academic learning journey. During their leadership practice, say Ackerman and Maslin-Ostrowski, school leaders may encounter “critical events” of the kind that “wounds to the core—what some leaders call their integrity or identity, the soul of a person’s way of being” (p. x). Because “school is essentially a human event.” and “things happen unrelentingly,” events occur that are unpredictable and profound (p. xii). Such events, however, may be ambiguous, and fleeting, meaningful only to the person who experiences the event; and may potentially inflict pain and suffering on the student as he internalizes the experience:

Yet the nature of events that give rise to wounding is difficult to categorize and predict. The shape of things on the outside does not

¹⁰ Advisor, Personal Communication, April 28, 2004.

necessarily correspond to, or even reveal, how the wound looks and feel son the inside. It is, after all and ultimately, a personal matter ¹¹ (p. xii).

As in chaos theory where small actions can have large and unintended consequences, small hurts and humiliations that a professor may unknowingly, or knowingly, inflict on students may have great impact on students' academic success. Students, especially undergraduates, may be unable to speak of their humiliation or hurtful event and may not even be aware they are in pain, as it becomes deeply embedded in their psyche.

Chaos Narratives

Frank (1995) believes that at one time or another, we are all wounded storytellers—ill or wounded with a lived experience to share in hopes that someone will listen. Frank describes a type of narrative as chaos narratives that are “told on the edges of a wound” and “on the edges of speech (p. 101. Chaos is “told in the silences that speech cannot penetrate or illuminate” (p. 101). Chaos narratives are “...always beyond speech, and thus it is what is always *lacking* in speech...Chaos is what can never be told: it is the hole in the telling...” (p. 102). Male students who are experiencing chaos in their lives may not be able to name or describe their experience—they may be unable to speak of it. To circumvent that which cannot be told in words, male students may be able to demonstrate their lived experiences through media other than speech—artwork, essays, poetry, music, or photography.

¹¹ Ackerman, R. H., & Maslin-Ostrowski, P. (2002). *The wounded leader: How real leadership emerges in times of crisis*. San Francisco: Jossey-Bass.

Frank (1995) also says if people can speak of the chaos in their lives, they are no longer in chaos. If people are still in chaos, they are unable to speak of it. Most of the male undergraduates who talked to me have emerged from the chaos in their academic journeys but I wonder how many others could not speak of their experiences; how many whose lives were still in chaos.

Conversely, small experiences and gestures such as a professor showing respect for a student and hearing his voice and acknowledging his wisdom may have profound impact on a student's self-respect, motivation, and academic success. Even at elementary and secondary levels, says Riley & Rustique-Forrester (2002)

you cannot underestimate the importance of the interplay between teachers and pupils...If children feel that they are neither liked or respected, they find it particularly difficult to learn. Place the child in the orbit of a disaffected teacher, and the outcomes are predictable and grim. (p. 6)

After all, "it is...a personal matter" (p. xii).

Turning Tides

After World War II, universities gave special attention to males in higher education, and more men than women were admitted. Since about 1965, however, American educators have made special efforts to provide opportunities for women and minorities. Affirmative action policies themselves give testimony concerning these trends. Evidence indicates that now the once-privileged part of the student community—males, and especially majority males—have lost the sense that they are privileged.

Females are currently dominating academics. For example, Thompson (2000), a school psychologist, writes about the problems boys are having in academics. In his

book, *Raising Cain*, Thompson says that “girls outperform boys in elementary school, middle school, high school, and college, and graduate school...girls are soaring, boys are stagnating.”¹² Campuses are “nearly 60 percent female, with women earning 170,000 more bachelor degrees each year than men,” reported by Leslie Stahl, CBS News, in her October 31, 2002 report “*The gender gap: Boys lagging.*” At some colleges, they’re getting so many more qualified women applicants than men applicants that the schools are doing something that might shock you.” According to Thompson (2000), “To make a class that’s 50-50, they’re practicing affirmative action on behalf of boys” (p. xii).

Another psychologist, Pollack (1998), founding member of the Society for the Psychological Study of Men and Masculinity, the American Psychological Association, also thinks that today’s boys are in trouble. In fact, Pollack thinks they are “in serious trouble, including many who seem ‘normal’ and to be doing just fine” (p. xxi). “Confused by society’s mixed messages about what’s expected of them as boys, and later as men, many feel a sadness and disconnection they cannot even name” (p. 1). Western culture encourages boys to repress their emotions and parents may urge their boys not to cry or try to mollify them without allowing them to express their anger or sadness. New research, says Pollack

shows that boys are faring less well in school than they did in the past and in comparison to girls, that many boys have remarkably fragile self-esteem, and that the rates of both depression and suicide in boys are frighteningly on the rise. Many of our sons are currently in a desperate crisis. (p. xxi)

Not only are they troubled, says Pollack, and may feel depressed and disconnected, they are “suffering silently inside—from confusion, a sense of isolation,

¹² Kindlon, D. & Thompson, M. (2000). *Raising Cain: Protecting the emotional life of boys*. New York: Ballantine Books.

and despair,” this sense of loneliness and depression may follow them into adult life (1998, p. xxi). It logically follows that if males experience such things in elementary, middle school, and high school without some form of intervention, expression, or awareness, then such issues and impacts will follow them into college as well.

In the educational system, the statistics are startling. Boys are twice as likely to be labeled “learning disabled,” comprise 67 percent of special education classes, and “are up to *ten* times more likely to be diagnosed with a serious emotional disorder—most especially attention deficit disorder” (Pollack, 1998, p. xxiii). While girls are making strides in the math and science departments and are entering college confident and capable, boys are “lagging behind” in reading (Pollack, 1998, p. xxiii). Their self-esteem is “more fragile” than that of girls, their confidence as learners is “impaired” and they are “more likely to endure disciplinary problems, be suspended from classes, or actually drop out from school entirely” (Pollack, 1998, xxiii).

If the right conditions exist, internally and externally, male undergraduates will academically survive the process of transformation that *should* occur in school.

Goldstein (1994) says:

An amazing characteristic of nonlinearity in a system is that it contains its own capacity for transformation, requiring only the right conditions for activation . . . nonlinear systems have locked up within their nonlinearity a tendency toward change, growth, and development . . . essentially transforming into greater and greater complexity. (p. 12)

Depression in Males

Men are biologically and developmentally different from women. Heredity plays an important part says Eli Newberger (2000): it “bestows a different body and mind on a boy than on a girl” “...distinctive enough to provide a unique biological starting point for

a boy's development through childhood and adolescence" (p. 1). The environment also plays a role. In Western culture, our "gender-polarizing society,"¹³ boys are raised differently from girls, and, as Newberger suggests of males, "We have different ways of relating to them, different expectations for them, different goals for them, different roles for them" (p. 2). Such differences in raising boys and girls "provide a unique cultural environment with problems specific to males and their character."¹⁴ Temperament is also part of a male's character, says Newberger, and will influence that way he behaves in any situation. Part of temperament is "hardwired" and is not sensitive to outside influence, and part is "softwired" and is more sensitive to outside influence. A range of behaviors and responses to indicate temperament includes the activity level of a child, the regularity of his eating and sleeping patterns, how he initially reacts to new situations including withdrawal or approach, his ability to adapt, his sensory threshold, his mood, the intensity of his reactions, how distractible he is, and the length of his attention span and persistence (p. 15).

Embedded In A Dynamic System

A child is embedded in a dynamic system, the family, and must interact with family members who also have a specific temperament and personality. These interactions create fluctuating family dynamics. How his parents respond to a male child as he expresses himself emotionally helps to shape his emotional life. In Western society, boys are discouraged from expressing pain, sadness, disappointment, loss, and shame by crying, says Newberger (2000). In discouraging males, he says,

¹³ Newberger, E. H. (2000). *The men they will become*. New York: Perseus Books. p. 1.

¹⁴ Newberger, E. H. (2000). *The men they will become*. New York: Perseus Books. p. 2.

we have diminished the emotional life of boys and men by defining crying so early and decisively as a shameful weakness. The cultural constraints on crying as unmasculine have obscured what crying is all about. In my work with neglected and abused children, it's when the boy *doesn't* cry that causes the greater worry: He's learned not to expect a response, or to expect an unkind one. (p. 51)

Boys learn early on to repress crying, but, as a result over time, may express sadness in violent ways: in “violent language or in physical assault, or in both” (p. 52).

Research on male depression by Pollack (1998) reveals that “eighteen percent of fourteen-year-old boys say they have had suicidal thoughts. Seven percent say they have attempted suicide. The percentages are lower than for girls the same age, but boys are more effective in completing the act, killing themselves four to six times more often than girls.”¹⁵ Depression is caused by failure to help boys cope with emotional states “that without appropriate intervention may very well evolve into a major depression or provoke suicidal feelings.”¹⁶

I considered the perceptions of male undergraduates in environmental studies programs from a large, research-intensive, land-grant university in the Midwest. I heard how they interact with their environment and learned how they perceive and adapt to the “disorder” and “turbulence” of university and community life.

To gain insight into the perceptions, interactions, and coping strategies of the male undergraduates, I employed concepts from dynamical systems, the sciences of chaos and complexity, areas of psychology, the neurosciences, and theories of educational change.

¹⁵ Cited in Newberger (2000). *The men they will become*. New York: Perseus Books, p. 217.

¹⁶ *Ibid.*

To gain insight into the perceptions, interactions, and coping strategies of the male undergraduates, I employed concepts from dynamical systems, the sciences of chaos and complexity, areas of psychology, the neurosciences, and theories of educational change.

I listened to the narratives of the lived experiences of the male undergraduates to gain insights into the following questions:

- How do they seek connection and make meaning of their experiences?
- How can chaos and complexity theories inform the process of self and collective understanding?
- What contributes to stress, dissonance, and perturbations in their daily lives?
- What are their expectations?
- What are their classroom experiences like, including their interactions with faculty, their peers, and their responses to teaching and learning styles?
- What might contribute to their whole-person development?
- How do individual differences and personality preferences contribute to their academic experiences and deep learning?
- What kinds of coping strategies have they adopted?
- What changes do they recommend?

There are multiple realities. Each person creates his or her own reality, and perceives his or her own world and lived experiences in unique ways. It is imperative that these perceptions are respected. The way we create our realities depends on what we have learned in the past, what we choose to observe in the

present, in context, and the ways we engage in those processes. Knowledge is therefore subjective, co-created, and contextual. Wisdom, however, is not.

CHAPTER TWO:

REVIEW OF THE LITERATURE

Discussion of the literature is organized around two main areas: dynamical systems, chaos, complexity, and quantum theories; and qualitative research and methodology. In the review of the literature, I provide a brief discussion of dynamical systems theory; the new sciences, chaos, complexity, quantum theory, and relativity; and some of their applications in psychology and human behavior and higher education. In addition, I include a brief discussion and possible links between personality psychology and human behavior. I also survey relevant literature on qualitative methodology and methods.

The literature I cite is representative; like a crystal prism, it merely represents the facets of a crystal, reflecting and illuminating other areas, ideas, and fields. I hope my study creates a spark within the reader to explore further. I allude to literature from other areas of psychology (personality, social, ecological, cognitive), and educational theories, as the literature becomes relevant in Chapters Four and Five.

Dynamical Systems and The New Sciences

Dynamical Systems

This study is grounded in dynamical systems theory, chaos, complexity, and self-organization theory: I take a dynamic systems approach in this exploration, and look at multiple layers, multiple perspectives, their interactions and syntheses, using what Geyer & van der Zouwen (2001) call a sociocybernetic approach. Smale (1974) was one of the first to use the term “dynamical system” to signify that he was looking at something other

than differential equations of a system. Smale paid attention to the *shape* of phase space trajectories of systems instead of the *formulas* used to define them, prompting a shift in “a quantitative and local description of the system to a global and qualitative description.”¹

A system is “a set of variables to which an observer relates . . . What the world is is a function of how it is observed and perceived; its nature a matter of the channels opened to communicate with it” (von Geert, 1994, p. 50). All observations and perceptions affect all other observations and variables and “also affects itself . . . a property called complete connectedness . . . that is the default property of any system” (von Geert, 1994, p. 50). A dynamical system is also cybernetic, concerned with internal and external change over time, and describes a relation to self and to one’s external environment (Bertalanffy, 1972).

Complex adaptive systems (CAS) are nonlinear systems that can process and incorporate new information. Sanders (1998) observes that, “Most of the world is made up of complex adaptive systems,” including the social world “of people, politics, and commerce,” with “many interconnecting points” (p. 161). Complex adaptive systems change or respond to new information through an adaptive process (p. 161). Humans are complex adaptive systems, an important concept in this study. Vickers (1983) identifies four kinds of relationships, or “dimensions of instability,” in human systems: person-to-person relations; person-to-society relations; group-to-group relations; and “the relation of all of them to resources of the planet” (p. 65).

¹ [Http://www.exploratorium.edu/complexity/lexicon/dynamics.html](http://www.exploratorium.edu/complexity/lexicon/dynamics.html)
Viewed August 10,2003. The Exploratorium, 1996.

To understand a living system one must look at the patterns, processes, and structures of the system (Capra, 1996). Because a system is dynamic and organic, nonlinear, and continuously changing, adapting, and evolving, there can only be a *moment* of truth, a *glimpse* of understanding, and a *split second* of being before things begin to change. This study is an attempt to reveal and convey a moment of truth for male undergraduates, to get a glimpse of understanding of their perceived realities and how they become engaged in learning, and to *be there* in the moments they describe, before their realities and environments change again.

Bertalanffy (1950) introduced systems theory to explain living systems, to fill the void unexplained by atomistic and reductionist models. Bertalanffy called for a general systems theory—a “general science of ‘wholeness.’”² Systems theory is holistic, emphasizing relationships and interactions between the parts, instead of reducing to the parts themselves. Holism as a philosophy is opposite of reductionism, viewing complex phenomena as a dynamic whole instead of merely a collection of parts.

Systems theory has its applications in many fields including engineering, ecology, organizational development, management, economics, the stock market, computing, psychotherapy, and in soft systems including social, cultural, organizational, and family systems (Zohar & Marshall, 1994):

There is a whole rich repository of language, metaphor, and allusion in these new scientific ideas, as well as practical applications for understanding human nature and consciousness . . . There is an uncanny and intriguing similarity between the way that quantum systems relate and behave and . . . human social relations. (p. 13)

² Cited in Taylor, M. (2001). *The moment of complexity: Emerging networks culture*. . Chicago: The University of Chicago Press. p. 140.

Gray (1996) applies the theory of archetypes to sociology and sociological systems, and believes that “self-similarity, complexity and non-linear activity seem to be hallmarks of the activity of the collective unconscious “ (p. 282).

Cybernetics

The term “cybernetics” is derived from the Greeks meaning steersman.

Cybernetics also refers to related approaches in general systems theory. It is the process of feedback from the environment to the individual that provides immediate information about the state of the environment, resulting in possible changes in one’s behaviors, values, or approaches (Geyer & van der Zouwen, 2001, p.1). von Foerster (1970, 1974) first coined the term and defined first-order cybernetics as the cybernetics of “*observed systems,*” and second-order cybernetics as the cybernetics of “*observing systems*”³ Main concepts in the cybernetics of observing systems include “self-organization, self-referencing, self-steering, and autopoiesis” (Geyer & van der Zouwen, 2001, p. 2). Sociocybernetics is the application of both first- and second-order cybernetics. Its main concepts include complexity, autopoiesis (self-production), and the observation of social systems.

Individuals use information from their environment to self-organize, self-reference, and to re-create themselves. Students respond to and influence their academic environment, making choices and decisions based on feedback from their environment.

³ Cited in Geyer & van der Zouwen. (2001). p. 1.

Autopoiesis and Self-Organized Criticality

Autopoiesis means self-making (Capra, 1996). Maturana & Varela (1980, 1987), coined the term, introduced the idea of living cells that continuously create themselves, and the idea that life is autopoietic, or “continually self producing” (1987, p. 43).

Autopoiesis is “the defining characteristic of life in the new theory,” and “a set of relations among processes of production of components” (Capra, 1996, pp. 161 & 168).

Autopoietic structures are constantly self-renewing, open systems that are “at the highly sophisticated end of nature’s spectrum of open systems” (Briggs & Peat, 1989, p. 154).

Autopoietic systems are also paradoxical because, as self-renewing systems, they maintain their own identity yet are interconnected with their environment:

They are highly autonomous, each one having a separate identity, which it continuously maintains. Yet, like other open systems, autopoietic structures are also inextricably embedded in and inextricably merged with their environment—a far-from-equilibrium environment of high energy flows . . . Each autopoietic structure has a unique history, but its history is tied to the history of the larger environment and other autopoietic structures. (Briggs & Peat, p. 154)

Autopoietic structures have definite, open boundaries that “connect the system with almost unimaginable complexity to the world around it” (Briggs & Peat, p. 154); the complexity of the system “emerges as a result of the patterns of interaction between the elements” (King, 2000, p. 78). The idea of autopoiesis is “an important advance in the understanding of complex systems” (Abraham & Gilgen, 1995, p. 131). The idea of autopoiesis is important and applicable to male undergraduates (as complex systems) trying to maintain their individual identity as they interact with and are embedded in their academic environment; each undergraduate has a unique history that is tied to the history of the larger environment (their university, their community, their ancestors, and

humankind). Each student is “inextricably embedded in and inextricably merged with their environment,” to use the words of Briggs & Peat.

Self-organization is a self-generated, self-guided process where there is minimal environmental effect, and where the development of new, complex structures takes place primarily in and through the system itself: “Autopoiesis is a mode of autonomous organization that produces an organizational process with in its own organic structure (Goldstein, 1994). It creates and renews itself through its own processes which are themselves embedded in the environment.”¹ Self-organization occurs when a system is far-from-equilibrium.

Chaos Theory

Chaos, Chaos, infinite wonder!
Wheeling and reeling on wavering wings²

Chaos reverses the context. It flips the classical order of things on its head . . . Chaos is important because it completely reverses our frame of reference—it changes our assumptions from ones based on a limited case to the ones based on a broader case.³

I draw heavily on the works of Gleick, Butz, Waldrop, Masterpasqua & Perna, Dimitrov, Briggs, Peat, Briggs & Peat, Elliott & Kiel, Capra, Lewin, Prigogne & Stengers, Kellert, Hawkins, Sanders, and Abraham & Gilgen. I also draw connections in this section between the literature and specific implications for this study.

Chaos theory challenges the long-held Newtonian paradigm of linearity, certainty, and predictability (Elliott & Kiel, 1997). Chaos and complexity theories may provide us

¹ Varela, 1989, as cited in Masterpasqua & Perna, 1998, p. 126.

² Blackie, J. S. (ND). *Musa Burschicosa*. A Song of Geology. Cited in C. C. Gaither & A. E. Cavazos-Gaither Scientifically speaking: A dictionary of quotes. Philadelphia, PA: Institute of Physics Publications, p. 22.

³ Goerner, S. J. (1994). *Chaos and the evolving ecological universe*. Australia: Gordon and Breach, p. 33.

insight into the complex systems in which we exist and are embedded, and have gained popularity in multiple fields in recent years, although the concept of chaos is ancient. Chaos and complexity theories are ways of looking at the behavior of nonlinear, dynamic systems including growth, decay, emergence, self-organization, fractality, bifurcations, turbulence, creative potential, far-from-equilibrium states, and oscillation. Chaos theory states there is an underlying order to erratic behavior found in turbulence, weather patterns, heart fibrillations, dripping faucets, fluctuations in populations, galaxies, turbulent fluids, plate tectonics,⁷ the atmosphere, global warming, the brain, and any other nonlinear, dynamic system; suggesting there is “an underlying interconnectedness that exists in apparently random events” (Briggs & Peat, 1989, p. 21).

Gollub and Solomon (1996) define a chaotic system as “one that shows sensitivity to initial conditions . . . any uncertainty in the initial state of the given system . . . will lead to rapidly growing errors in any effort to predict the future behavior . . . Its behavior can be predicted only if the initial conditions are known to an infinite degree of accuracy, which is impossible” (p. 282).

Although currently referred to as one of the new sciences, chaos as a concept is ancient. Chaos “is a universal concept with roots that goes back . . . one to two thousand years” in Asian and Egyptian cultures” (Butz, 1997, p. 207). In Western culture, says Butz, the concept of chaos is credited to Hesoid in Greek civilization in 700 BC (Kirk & Raven, 1957):⁸

Verily first of all did Chaos come into being, and then broad-bosomed
Gaia, a first seat of all things forever . . . Out of Chaos, Erebus and black
Night came into being. (pp. 24-27)

⁷ http://en.wikipedia.org/wiki/Chaos_theory

⁸ As cited in Butz, M. R., Chamberlain, L. L., & McCowan, W. G. (1997). *Chaos and complexity: Implications for psychological theory and practice*. Washington, D.C.: Taylor & Francis. pp. 206-207.

Lorenz, a meteorologist, mathematically discovered the phenomena of nonlinear behavior in the 1960s by accident. He discovered that initial conditions were important to the later behavior of a system. Sensitivity to initial conditions, or “the butterfly effect, as Lorenz termed it, in weather, is the idea that “a butterfly stirring the air today in Peking can transform storm systems next month in New York,” meant that minute changes in initial conditions greatly impacted the entire system (Gleick, 1988, p. 8). The effects are not linear; there is no direct cause and effect. Instead, (Morgan, 1997):

The significance of the butterfly is that it triggers a small change, that perhaps triggers another small change, and another, that by chance proves to be a significant random element catalyzing changes that ultimately shift a system from the influence of one attractor pattern to another. (p. 265)

The new sciences of chaos and complexity may provide insight into the lives of those who are in the process of self-organization. Oscillations, bifurcation, strange attractors, self-organization, fractality, and sensitivity to initial conditions are all concepts from chaos and complexity theories and are inherent in dynamic systems, including human systems.

Sensitivity to initial conditions has implications for students in higher education. Initial conditions are critical—how students perceive their experiences based on initial conditions impacts their engagement, persistence, and happiness in school. Small changes can have great impact on their learning experiences and motivation.

From Hard to Soft Science

The once unfamiliar and transforming idea of chaos theory is now ubiquitously seen and accepted in scientific and other communities. Gleick (1988) notes:

Now that science is looking, chaos seems to be everywhere. A rising column of cigarette smoke breaks into wild swirls. A flag snaps back and forth in the wind. A dropping faucet goes from a steady pattern to a random one. Chaos appears in the behavior of the weather, the behavior of an airplane in flight, the behavior of cars clustering on an expressway, the behavior of oil flowing in underground pipes. No matter what the medium, the behavior obeys the same newly discovered laws. That realization has begun to change the way business executives make decisions about insurance, the way astronomers look at the solar system, the way political theorists talk about the stresses leading to armed conflict. (p. 5)

Chaos theory has its disciplinary roots in theoretical physics and natural sciences and is quantitative; however, its concept has been applied to social sciences to help explain attitudes, behavior, and human development. Chaos theory has been used in such diverse fields as psychology, human development and therapy, economics, postmodernism, theology, art, astrophysics, weather phenomenon, organizational change, and literature. It is a means to examine the “nonlinearity, uncertainty, and unpredictability of social systems behavior” (Krasner, 1990).⁹

Chaos Theory in Psychology

Interest in chaos theory has fluctuated in past years. Chaos theory has “had its day in the hard sciences” and has “been dismissed as the latest intellectual flavor of the month by many in hard sciences” (Butz, 1997, p. xiii). However, interest in chaos theory has increased in psychology and the social sciences since the early 1990s (p. xiii). Psychologists in various fields apply chaos theory in their research and practice. Goerner (1995) connects chaos with deep ecology and notes that the approach of chaos theory “supports a renewal” of Freudian psychology (Goldstein, 1990; Langs, 1989), Jungian

⁹ As cited in Elliott, E., & Kiel, D. (1997). *Chaos theory in the social sciences. Foundations and applications*. Ann Arbor, MI: The University of Michigan Press. p. 1.

psychology (Rossi, 1989), behaviorism (Koerner, 1992; May & Groder, 1989), and cognitive psychology (Abram, Abraham, & Shaw, 1990) (p. 3).

At the edge of chaos, the space between order and disorder, actions have emergent, unintended, and unpredictable impacts. As Goerner (1994) explains:

In a recursive, complexly interwoven world, whatever one does propagates outward, returns, recycles and comes back in a completely unpredictable form. We can never fully know to what results our action leads. We take action; the action can have a very potent shaping effect. Then we relax the drive to control and allow the process to unfold—the process learns, shapes and changes itself through all its inseparable components, not under the direction of one of them only. Together with overall changes in the process, we also change, almost unnoticeably, without any strain. (p. 4)

Prigogne & Stenger (1984) state that systems at far-from-equilibrium thrive at the edge of chaos. Dissipative structures “take form through their so-called flowing, such as a vortex in a river” (Butz, 1997, p. 99). Humans “are like the vortex in the river” in that the “information and energy that flows through them fosters changes, while at the same time providing the materials to construct the self in the perpetual process of life” (Butz, 1997, p. 99). I believe this applies to learning for some students: there is no chaos in a hierarchical, structured classroom, and no room for strange attractors, or dissonance, potentiality, or creativity. Some students simply *must* learn and *be* at the edge of chaos.

There are three different distinctions in chaos theory: dynamical systems theory, self-organization theory, and fractal geometry. In dynamical systems theory, there is a period-doubling chart, or the time relative to a system's behavior, "the time it takes a system to return back to its original state of stability once it has been stressed by a force

causing the system to destabilize" (Butz, 1988, p. 10). This concept is relevant to the psychological impact of stress on students, and to my study.

Complexity Theory

Simple systems give rise to complex behavior.
Complex systems give rise to simple behavior.
And most important, the laws of complexity hold universally,
caring not at all for the details for a system's constituent atoms.
Gleick, 1988, p. 304.

Complexity sciences emphasize “the study of complex, adaptive networks, or complex adaptive systems” (Stacy, 1996, p.10). Complexity sciences are “the emerging study of evolving systems that consists of agents whose joint transactions lead to self-organized patterns of adaptations (complex adaptive systems)” (Masterpasqua, 1997, p. 304). They include “nonlinear dynamic systems theory, nonequilibrium thermodynamics, dissipative structures, theory of self-organization, catastrophe theory, the theory of self-organized criticality, antichaos, and chaos theory” (Matthews, White, & Long, 1999, p. 439). Unlike the holism-reductionism split, the science of complexity emphasizes that the whole is greater than the sum of its parts. Complex entities have distinct and distinguishable parts: even though those parts are connected; they are simultaneously distinct yet connected (Heylighen, 1988).¹

An integral assumption of complexity theory is that “systems may teeter at the edge of chaos to enliven enough diversity to adapt to environmental demands in a novel way” (Butz, 1997, p. 5). Complex systems do not change all at once— some parts of the

¹ Heylighen F. (1988). Building a Science of Complexity, in: Proc. *Annual Conference of the Cybernetics Society*. H.A. Fatmi (Ed.), (Cybernetics Society, King's College, London). pp.1-22.

system change while other parts remain the same for a period of time. Individual and organizational learning is complex in this sense.

A focus of complexity theory is how systems with many elements can self-organize, like ecosystems and the central nervous system. Complexity theory is an outgrowth of chaos theory and describes “systems at the edge of moving into chaotic dynamics”—systems that have “complex interactions with the environment and within themselves, but they are not so open as to become chaotic. They are still in a stable state of existence.”¹¹ Complexity theorists apply its concepts to economics, neural structure, insect colonies, animal behavior (flocks of geese, for example), and behavioral and psychological structures.

A complex system is “one made up of a large number of parts that interact in a nonsimple way.”¹² The human body is a complex system, for example. Rather than regarding the body as a group of separate parts and organs with individual functions (reductionist thinking), systems theory focuses on the body as a whole (holistic thinking) comprised of distinct yet connected parts that dynamically interact. Every complex system including living systems—or self-organizing system—is a dissipative structure, taking in and dissipating energy through interactions with their environment (Prigogine & Stengers, 1984). Dissipative systems are able to maintain their identity, or self-create, because they are open to flows of energy, matter, or information from their environments (Prigogine & Stengers).

But as chaos theory demonstrates that simple nonlinear systems can behave in complicated and complex ways, complexity theory shows that interacting units can

¹¹ Butz, Chamberlain, & McCown, 1997, p. 4

¹² Simon, 1968, as cited in Taylor, 2001, p. 141.

generate unexpected order (Strogatz, 2003). Strogatz argues that both fail to explain *where* the order is coming from (p. 286). He suggest that synchrony, a basic part of nonlinear systems that deals with rhythmic units, provides added insights to nonlinear systems and is the next step in the study of nonlinear systems (p. 287).

Self-organization of a system "means that its order in structure and function is not imposed by the environment, but is established by the system itself" (Capra, 1982, p.269). A system may self-organize and be far from equilibrium, or may self-organize into a chaotic state. Students, too, can self-organize into a chaotic state due to external and internal pressures and experiences. An important implication for higher education is that there needs to be space, flexibility, or loose or open boundaries for students to self-organize into to their potentiality, into the person they have the potential to be.

Systems that are at the edge of chaos may create enough diversity "to adapt to environmental demands in a novel way" (Butz, 1997, p. 5). For reasons I detail later, I think the students in my study have operated at the edge of chaos, and have been forced to adapt to environment and educational demands in the "novel way" that Butz described.

Characteristics of Chaotic, Complex Systems

Chaotic systems are unstable since they react to and are somewhat guided by outside disturbances in significant ways. Some specific characteristics of a chaotic system include:

- *Sensitive dependence on initial conditions*—This is a major feature of chaotic systems and the source of unpredictability. Small changes in the initial condition of a system may have large impacts, and future behavior may soon become very

different. The transformative result is known as the butterfly effect. Small differences in initial conditions and interactions for some students early in their academic career may greatly impact their later behavior (Gleick, 1988).

- *Perturbations/Oscillations*, dissonance, uncertainty—“create dissatisfaction that is necessary for movement” (Peck & Carr, 1997). . One condition specific to chaos theory is oscillation: "There must be oscillation to have chaos. Without oscillation, there is no chaos."¹³ Nothing changes during times of complacency, sameness, or equilibrium. There can be oscillation in galaxies, brains, moods, attitudes, health, heart fibrillations, health, behaviors, and development. Attractors cause oscillation; they pull a system back and forth between fixed points (a high and a low), thus creating oscillation. Stress or tension on a system causes it to move toward and away from attractors. Measurable oscillations in systems include fluctuations in population growth. Cognitive dissonance is a kind of psychological oscillation that prompts change through cognitive conflict (Festinger, 1957). In psychology, an example is an individual making difficult choices involving values; or bipolar mood swings. Interviewees responded to Question #3, Interview #1 when asked to describe experiences or sets of circumstances that caused a disturbance of any kind for them (see Appendix D).
- *Bifurcations*—Bifurcations are tipping points, sudden reorganizations, or forks in the road—moments when powerful systemic events occur that create a change from preexisting conditions. Bifurcations typically occur when a system is changing from linearity to nonlinearity (Coveney & Highfield, 1990), a split involving “punctuated equilibrium, periods of stable sameness broken by sudden

¹³ Levine. R. January 27, 2000. Personal communication.

rapid reorganizations into a new form” (Goerner, 1995, p. 9). In a system, a bifurcation point is “a vital instant when something as small as a single photon of energy; a slight fluctuation in external temperature; a change in density” iterates to the point that a fork is created and the system shifts to a new direction (Briggs & Peat, 1989, p. 143). Over time, the floods of bifurcation points will either “cause a system to fragment itself (period doubling) toward chaos, or to stabilize a new behavior through a series of feedback loops . . . that couple the new change to its environment” (Briggs & Peat, 1989, p. 143). I believe it is at this point that disaffected students might either adapt to their environment (perhaps by lowering their standards or values), change their expectations, (the stabilizing process of cognitive dissonance), or disengage either through withholding or dropping out of school. It is also at this point, if given the space, where they might self-organize and engage. An example of a bifurcation is the transition between gaits of a horse—from walking to trotting to galloping (Goerner, p. 8). Other psychological examples of bifurcation may be the death or illness of a loved one, sudden change in one’s finances, loneliness, the decision to change one’s academic major, or the decision to leave school.

- *Self-Organization*—Self-organization of a system "means that its order in structure and function is not imposed by the environment, but is established by the system itself" (Capra, 1982, p. 269). A system may self-organize and be far from equilibrium. That is, a system may self-organize into a chaotic state. Carr-Chellman (1999), referring to Capra’s definition of self-organization, says “This is critical in that self-organization cannot occur in a system that is controlled by

‘experts’ and models of solution-generation” (p. 36). Moreover, Goerner (1995) suggests that systems

will structure themselves give the right conditions. Social systems shaped by the mechanistic view tend to suppress the system’s creative tendencies; they are oriented toward external control. Organizational consultants are using self-organization’s message to help businesses unleash the self-organization tendencies in their own system, often just by structuring the system to let change happen. (p. 11)

Examples of self-organization in the human system include the brain and heart, temperament, emotions, or cognitive styles.

- *Fractals/Fractality*—or self-similarity, is when something resembles itself across a range of scales or iterations. Fractals “refer to a particular type of structure created by an iterative, self-referential process” (Goerner, 1994, p. 40). Fractals are sets that always resemble the original image even when magnified over and over; the closer one looks at a fractal, the more one sees exactly the same object. For example, a coastline, trees, clouds, mountains, brains, lungs and blood supplies, or a head of broccoli always looks the same regardless of the degree of magnification, and the complexity increases with each iteration.¹⁴ The human circulatory system resembles the branching pattern of a river. Mandelbrot (1975) coined the term “fractal” to describe a new kind of geometry he had formulated to help explain and understand nonlinear, irregular, fragmented aspects of the natural world classical Euclidean geometry could not.¹⁵ Question #7, Interview #1 is designed to identify how interviewees compared themselves to other male undergraduates in environmental studies (see Appendix D).

¹⁴ Briggs, J., & Peat, F. D. (1989). *Turbulent Mirror: An illustrated guide to chaos theory and the science of wholeness*. New York: Harper & Row. Publishers. pp. 92-95.

¹⁵ Briggs & Peat, 1989, p. 92

- *Strange attractors*—Defining a strange attractor is not simple. Multiple definitions from multiple authors may provide clarity at one convergence or another. Tsonis (1992) defines attractors as "a limit set that collects trajectories" (p. 67). An attractor is "a picture of the stable behavior a system settles into over time (Goerner, 1994, p. 39). Strange attractors are shapes, or patterns of pathways, with fractional dimension; they are fractals. Butz (1997) describes strange attractors as "things that attract or repels—like a magnet—with boundaries, and stretches and folds, like kneading bread dough or pulling taffy, that creates a pattern" (p. 69). Briggs & Peat (1989) define strange attractors as the turbulence that breaks up orderly systems and causes disorder in our environment, a "... region of phase space which exerts a 'magnetic' appeal for a system, seemingly pulling the system towards it." Stevens (1997) defines a strange attractor as "the process that unfolds through the complex interaction between elements of a system . . . an idealized state toward which an unpredictable or dynamical system is attracted" (p. 69).¹⁶ This process creates a kind of map, or pattern, as the system cycles through chaotic and orderly phases. Van Eenwyk's (1997) definition of a strange attractor is simply:

The pattern into which a dynamic eventually settles is said to 'attract' the dynamic. In the case of strange attractors, the dynamic settles down into a pattern, but never crosses over itself or repeats exactly any particular 'path' in that pattern. It is always doing something new, yet it confines itself to certain domains. Thus, it is said to be 'strange.'" (p. 183)

Butz, Chamberlain, & McCown (1997) describe strange attractor patterns as

"fantastic, complex maps that capture the interplay between stability and change

¹⁶ In Butz, M., Chamberlain, L. L., & McCown, W. G. (1997). *Strange attractor: Chaos, complexity, and the art of family therapy*. New York: John Wiley & Sons, Inc.

in systems” (p. 68). Strange attractors have boundaries that limit their behavior, and are the foundation for the hidden order in natural systems. The behavior of a system, including human behavior, is organized around its strange attractors. For example, a strange attractor may be a specific person or group of people, social events, interests or hobbies, ideas, values, love, one’s personality preferences, or an academic specialization. As another example, there are organizing principles that limit behavior in families including “religious beliefs, cultural norms, family ‘myths,’ values” or other things that limit behavior (Stevens, 1997, p. 71). In college and universities, strange attractors may be specific faculty, peers, social events, certain classes, learning communities, or other opportunities.

Chaos and the Individual

An individual may experience internal turmoil and dissonance and, at the same time, must deal with complex external turbulence. Transformation on multiple levels may emerge from such change and turbulence. Male undergraduates must respond to change in their daily lives. How one responds to change may contribute to inner turmoil and ultimately changed behavior. As Goldstein (1994) says, “There are signs that inner transformation is at work. Pain, churning, and discomfort may also accompany organizational change” (p. 2). Furthermore, says Goldstein:

This inner organizational transformation is analogous to the processes of ancient alchemy in which chemical compounds would be challenged by various procedures in order to bring out their hidden essence. Because this essence was thought to be locked up inside each of the compounds, the skill of alchemy consisted of knowing the right means for challenging, and thereby facilitating inner transformation, in each of the compounds. Like alchemy, self-organization is a process of transformation whereby the

inner potentials for change that is locked up in the organization are unleashed and actualized by the right kind of challenge. (p. 3)

Others refer to the pain and churning that Goldstein refers to as agony. There is agony in education that is both useful and necessary for learning Kuhlman (1994), and “the lack of agonic emphasis in modern society and in its educational programs contributes to both passivity and complacency, conditions that are conducive to the harmful growth of antiheroes” (p. 36). Furthermore, says Kuhlman:

Learning environments devoid of agonic tension, where legitimate struggle is factored out and obstacles that require effort for removal are absent, retard development of skills, perceptions, and attitudes that build strength. (p. 37)

Nothing can reach its “telos” without struggle” (Kuhlman, p. 27). He also suggests that curriculum “should include conflict situations, physical, psychological, and social” to teach students how to handle conflict and learn social skills from the process; these situations would constitute the basis for “meaningful activity” (p. 170).

Chaos theory, then, may help us to understand change in the individual. In psychology, one definition of change is “. . . that process that ferries people from one stable period to the next in their lives” (Butz, 1997, p. 3).

Current applications

Concepts from chaos theory have been used in such diverse fields and camps as psychology, development and therapy, economics, postmodernism, theology, art, astrophysics, weather phenomenon, and literature. Interest in chaos theory has fluctuated in the past few years. Chaos and complexity theories have been applied in the field of psychology to study of human behavior and human dynamics (Gleick, 1988); in

psychotherapy (Butz, 1997); development and therapy; to postmodernism and theology (Gleick, 1987); to organizational change and learning (Sanders, 1998); behavior and cognition, neural networks, and social systems (Abraham, & Gilgen, 1995); on the human mind as a complex system (Wieland-Burstan, 1992; Blackerby, 1993; Van Eenwyk, 1997; Walker, 2000); and by others (Robertson & Combs, 1995; and Kelso, 1999).

Quantum Theory

Seven years we have lived quietly
Succeeded in avoiding notice
Living and partly living.
T. S. Eliot, *Murder in the Cathedral*¹

Quantum theory will not allow the individual
event to be pinned down in any exact way.
F. David Peat, 1987

Quantum theory describes “the behavior and interactions of elementary particles or energy states based on the assumptions that energy is subdivided into discrete amounts and that matter possesses wave properties.” Concepts from quantum theory include unpredictability, uncertainty, and relativity. A few theories in the early part of the twentieth century impacted the ways scientists and others view the natural world: Einstein’s theory of relativity (time and space are curved and dynamic, affecting and affected by everything in the universe), Planck’s quantum theory, Heisenberg’s (1901-1976) principle of uncertainty theories (Sanders, 1998, p. 61). Heisenberg’s principle of uncertainty led to the formulation of quantum physics, and described behavior of particles at the subatomic level: instead of being static, the smallest particles at the

¹ Quoted in Zohar, D. (1990). *The quantum self*. New York: Quill. p. 38.

subatomic level, known as quanta, are “pulsating bundles of energy,” their behavior “impossible to measure or predict with absolute certain, because they exist and interact in a quantum . . . state that has a number of potential outcomes” (Sanders, 1998, p. 61). In his Uncertainty papers (1927) Heisenberg wrote, “The more precisely the position is determined, the less precisely the momentum is known is this instant, and vice versa.”¹⁸ Moreover, as a result, the state of a particle becomes observable and definable only through interaction: “One of the principal consequences of uncertainty is that you cannot specify the exact state of a particle without somehow interacting with it,” that “the existence of the classical ‘path’ can be presently formulated as follows: The ‘path’ comes into existence only when we observe it” (quotes by Heisenberg).”¹⁹

The concepts from quantum theory, uncertainty, and relativity, indicate that the universe is relational and dynamic, opposing Newtonian determinism. We are not separate from the universe; there is no *it*, only *we*, and our interactions both change what we interact with and ourselves. Schrodinger challenged the idea of reality emerging from our interactions and observations in his wave/particle theory. The well-known paradox of Schrodinger’s Cat, sometimes called *Who Killed Schrodinger’s Cat?* refers to the indeterminacy of the state of a system until it is observed. However, when the system is observed, it “collapses” to a different state. The paradox is that at one point a system is simultaneously everything and nothing. Schrodinger’s experiment includes putting a cat into a box with radioactive material. (See Zohar, 1990, pp. 38-40 for a detailed description of the experiment. Of importance is the question raised as a result of the

¹⁸ Cassidy, D. F. (2001). Internet website. American Institute of Physics. One Physics Ellipse, College Park, MD. <http://www.aip.org/history/heisenberg/p01.htm>. Viewed August 1, 2003.

¹⁹ Ibid.

experiment.) The cat has a 50-50 chance of living or dying. One cannot definitively answer the question, “Is the cat alive or dead?” until one opens the box and sees the cat. According to quantum theory, until the box is opened, “the cat is *both* alive *and* dead. He exists in a superimposed state of both conditions at once, just as electrons are said to be *both* waves *and* particles at the same time” (Zohar, 1990, p. 39). All the possibilities of the cat’s aliveness and deadness become a “probability wave” that can be charted mathematically—Schrodinger’s wave function (Zohar, p. 39). The cat is in a state of being both alive *and* dead until all the possibilities converge to form one reality (the observation made when one opens the box), collapsing the wave function. Quantum theory dictates that cat is, and will always be, *both* alive *and* dead.

This is detailed example is relevant to my study because reality happens when we see it; that is, what we perceive *is* our reality, and the possibilities are infinite. Students’ perceptions of their experiences and interactions at the university are their realities, and their potentialities are infinite depending upon those perceptions, their choices, context, interactions, and more.

Personality Preference as a Dynamic System

Man is a synthesis of the infinite and the finite, of the
temporal and the eternal, of freedom and necessity.
Kierkegaard

Individual personality preferences as identified by the MBTI are dynamic (Thompson, 1996). Thompson describes personality preferences as a ““strange attractor” within each of us that shapes and gives form to our psychological Type” (p. 34-35).

Thompson builds on a new perspective on systems science and insight from Goldstein

(1994) who states:

An amazing characteristic of nonlinearity in a system is that it contains its own capacity for transformation, requiring only the right conditions for activation . . . nonlinear systems have locked up within their nonlinearity a tendency toward change, growth, and development . . . essentially . . . transforming into greater and greater complexity. (p. 12)

Thompson views the four components of a person's personality preferences, or type, as nonlinear, containing "a capacity for transformation that could be called a 'personality DNA'—a Type development code that establishes rules and boundaries for Type development" (p. 34). Individual preferences combine to create a dynamic synthesis rather than merely just being additive. For example, if a person has a preference for Introversion, Intuition, Feeling, and Perceiving, INFP, he would have a dynamic preference, one that is greater than the sum of its parts, I + N + F + P. Thompson believes "the strange attractor is what drives the pattern of the human psyche, giving rise to behavioral, interactional and cognitive patterns commonly referred to as a psychological Type" (p. 35).

Middleton, Fireman, & DiBello (1991) and Middleton & DiBello (1990), take an interactionist position and contend that personality is a strange attractor.²⁰ Interactionists assert that personality is "the unique mixture of an individual's dispositions and the particular environment in which his or her behavior occurs" (Middleton, et al., 1991, p. 9). The interactionist position explains "some form of boundary for behavior and for dynamic fluctuations that occur in relief to internal and external pressures," and complex behavior (Butz, 1997, p. 93).

²⁰ Cited in Butz, M., Chamberlain, L. L., & McCown, W. G. (1997). *Strange attractor: Chaos, complexity, and the art of family therapy*. New York: John Wiley & Sons, Inc. p. 92.

Personality

The subject of personality includes many areas including motivation, cognition and self-cognition, traits, temperaments, and the social context (Winter, 1996, p. xi-xiv). Although there is no single definition of personality, Aiken (1997) defines personality as “the sum total of all the qualities, traits, and behaviors that characterize a person’s individuality and by which together with his or her physical attributes, the person is recognized as unique (p. 1).

Self-Realization

Jung (1875-1961) believed that the self undergoes a process of self-realization. The origin of this concept dates back to Aristotle (384-322 B.C.), who believed that everything had “telos,” a purpose or goal that makes up its essence and dictates its personality. Jung (1933) believed that teleology and causality (Freud) “are necessary for self-realization.”²¹

Jung, Myers-Briggs, and Myers-Briggs Type Indicator (MBTI)

Jung developed a psychoanalytic theory of personality and believed that “people are born with predispositions for thinking, feeling, and perceiving according to definite patterns and contents that become actualized through individualized experiences” (Hall, Lindsey, Campbell, 1998, p. 86). Jung’s theory involves two dichotomous attitudes—extraversion and introversion. Extraversion orients a person in the external, objective world, and introversion orients a person in the inner, subjective world. Jung also introduced two dichotomous pairs of functions that explained the differences in how

²¹ Engler, B. (1999). *Personality theories: An introduction*. (5th ed.). Boston: Houghton Mifflin Company. pp. 83-85.

people take in information and how they process that information: thinking, feeling, and sensing, and intuiting. Thinking is intellectual and objective, and Feeling is value-based and subjective. Sensing deals with concrete facts and reality, and Intuition is unconscious and deals with subliminal contents.²²

The most developed function is called the superior function, and is expressed through consciousness. The least developed of the four functions is called the inferior function, and is repressed, unconscious, and is expressed through dreams and revealed in times of stress. The superior function (Gray, 1996) “determines whether a person will adapt to the world primarily in terms of thought, feeling, emotion, or intuition” (p. 202).

Jung believed that personality contains conflicting polar opposites, and that a theory of personality “must be founded on the principle of opposition or conflict because the tensions created by conflicting elements are the very essence of life itself. Without tension there would be no energy and consequently no personality” (Hall, et al., p. 95). His is a systems view of personality. In the social context, Jung argues that modern society has devalued the worth of the individual to his labor value (Jung, 1971, 1960/1969).

Isabel Briggs-Myers (1962) developed the Myers-Briggs Type Indicator, MBTI, a psychological tool, to help individuals grow as a result of understanding and appreciation of individual differences in healthy personality, and to enhance harmony and productivity among diverse groups”²³

²² Hall, C. S., Lindzey, G., & Campbell, J. B. (1998). *Theories of personality (4th ed.)* New York: John Wiley & Sons, Inc., p. 91.

²³ Myers, I. B., McCaulley, M. H., Quenk, N. L., Hammer, A. L. (1998). (3rd Ed.) *MBTI Manual: A guide to the development and use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press, Inc.. p. xv.

The MBTI identifies sixteen different, dynamic types based on the following dichotomies: Extraversion (E) or Introversion (I)—how one gains energy: attending to the external world of people and things versus the internal world of ideas and concepts; Sensing (S) or Intuition (N)—how one takes in information: through five senses and noticing tangible reality (including facts and figures) versus a sixth sense and noticing patterns and imagining possibilities, trusting hunches and their intuition, and seeing the big picture; Thinking (T) or Feeling (F)—how one makes decisions: objectively, based on principles, fairness, and analytically versus subjectively, based on human values and harmony; and Judging (J) or Perceiving (P)—how one orients oneself to the outer world: preferring closure, organization, and linearity versus openness, “going with the flow,” and emergence.

Of the sixteen personality types, most men in the United States are Extraverted, Sensing, Thinking, and Judging, ESTJ. Approximately 75% of the general population prefers Extraversion (E) and Sensing (S) (Hall, Lindsey, Campbell, 1998, p. 116). A few characteristics of some of the preferences as they relate to this study are as follows.

- Introverts have depth of concentration and prefer inner world of ideas. They prefer reflection to action. Extraverts prefer action to reflection.
- Intuitives see possibilities and relationships, are visionary, and are abstract in thought. Sensors tend to be more practical.
- Feelers value harmony and rely on personal reactions. Thinkers value reason, and make decisions based on principles and fairness.
- Perceivers are curious, adaptable, flexible, spontaneous, and prefer open-endedness. They enjoy complexity and are tolerant with ambiguity. They may

delay making decisions or closure as they seek new information, wanting to know everything about their area of interest or project. Almost 64% of Rhodes Scholars were perceptive students, based on information from the Center For Applied Psychological Type (CAPT).

- Judgers like to make plans, want to know only key information, and then make quick decisions based on key information (are decisive). The majority of undergraduate students are judging students (almost 60% of over 16,000 freshmen from three universities), based on data from the Center for Applied Psychological Type (CAPT).²⁴

The MBTI is only one indicator of personality preferences and identifies only a part of the human psyche. It is frequently used to assist people in conflict resolution, organizational development, career choices, and in education. I used this psychological tool in my study because it is non-threatening to students, requires only a short period of time to administer, it is a reliable and valid psychological instrument, is widely used in many areas to help people learn more about themselves and others, and because I am qualified to administer and analyze the findings. I also used it as a tool to stimulate conversation with the participants, and as a non-threatening way for them to reflect on themselves, and to think about others.

Introversion

Extraversion and Introversion are “the most stable personality trait that differentiates people from each other and that can be reliably measured”

²⁴ Internet file GSU Master Teacher Program: On Learning Styles by H. J. Brightman, Georgia State University. Viewed June 16, 2002.

(Csikszentmihalyi, 1996, p. 65). Unlike the majority of undergraduates, most participants in this study were Introverts.²⁵ At Georgia State University (Brightman, (2002), most business students are Extraverts. Brightman writes:²⁶

The majority of undergraduate students are extraverts. Based on data from the Center for Applied Psychological Type (CAPT) between 56% and 58% of over 16,000 freshman students at three state universities were extraverts. Interestingly, over 83% of college student leaders were extraverts, while over 65% of Phi Beta Kappas were introverts.

Seven of the eight participants were Introverts, as revealed by the MBTI, the two interviews, our casual conversations, and written essays. Not only does introversion have psychological meaning, it has physiological implications. Introverts have an internal source and direction of energy, whereas extraverts gain energy and direct it externally. In his research into Introversion and Extraversion, Eysenck (1967) discovered that people tend to establish a comfortable level of nervous system arousal. Eysenck says Extraverts are *underaroused* internally because their cortical levels are lower and sensory thresholds higher, therefore, seek out external stimulus. Extraverts like to socialize with others. Conversely, Introverts are *overaroused* internally and have higher levels of cortical arousal, therefore, try to avoid external stimulus. Being in large group settings for extended periods of time, for example, may be exhausting for Introverts. In their studies on brain electrical activity, Wilson & Languis (1989, 1990), like Eysenck, found that “for both adults and adolescents,” Introverts have a higher internal arousal than Extraverts.²⁷

Although important on many levels, such information has special implications in the classroom: Introverted students “prefer reflective observation” and

²⁵ Percentage data taken from Myers, I. B., & McCaulley, M. (1985.) *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*. Consulting Psychologist Press.

²⁶ Internet file GSU Master Teacher Program: On Learning Styles by H. J. Brightman. Georgia State University. Viewed June 16, 2002.

²⁷ Myers, I. B., & McCaulley, M., Quenk, N. L., & Hammer, A. L. (1992). *Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press. p. 260-261.

appear to do their best thinking in anticipation rather than on the spot; . . . because their minds are so naturally abuzz with activity that they need to shut out external distractions in order to prepare their ideas.²⁸

Introverted students will respond with an answer when an instructor demands an immediate answer, but “have better second thoughts once they have quiet for concentration”²⁹ Introverts also have greater cortical arousal to auditory and visual stimuli than do Extraverts.³⁰

For example, living conditions on most college campuses are not conducive to privacy. Dorm rooms in residence halls are small and home for more than one student. Introverts, in particular, may find it frustrating if they do not find a quiet space with privacy. For example, in his dorm room, lack of personal space and privacy was an issue for one introverted participant. He said:

When I was in the dorm room, I had no privacy. Just sharing a room with another person is a problem. The biggest issue was privacy. It was hard for me to study. I’m now diagnosed with ADD. If I don’t have my own space, it’s hard for me to study.

Other implications for the classroom include the following: “in different ways each type may be both open to the encouragement of the academic environment and sometimes also susceptible to the absence of such support” (Myers, et al., 1992, p. 260). Moreover, they say, understanding dominant process “can help educators nurture the potential strengths and lessen the likelihood of problems among students” (p. 260). Dominant Feeling types, including INFPs, “do best in school when they care personally about the activity” (p. 260). INFPs “as college students report suicidal thoughts more than other types” (p. 260). Educators can learn about type theory and “personalize the

²⁸ (Myers, McCaulley, Quenk, & Hammer, 1992, p. 261.

²⁹ *Ibid.*

³⁰ As cited in Lewis Aiken (1999), *Human difference*, p.180. Researchers include De Pascalis & Montirosso, 1988; Stelmack & Michaud-Achorn, 1985; Stenberg, Rosen, & Risberg, 1988, 1990.

environment so that Dominant Feeling types . . . feel welcomed, are regularly encouraged, and challenged in areas in which they have natural strengths” (p. 260). Dominant Thinking types, including INTPs, may encounter problems “when they do not care enough about the human expectations of their instructors or peers” (p. 260). There are a “disproportionate number” of referrals for substance abuse and “adjustment problems” for INTPs (p. 260). Extraverted Intuitive types, including ENTPs, are sometimes “rated by psychologists among those who appear among college students referred for alcohol or substance abuse violations . . . it appears that the need for originality can lead toward creative productivity in some school settings and to trouble-making in others” (p. 260).

Temperament

Temperament refers to “stable individual differences in emotional reactivity” (Friedman & Schustack, 2003, p. 162). The belief that people are born with certain predispositions is ancient. Hippocrates first described the concept of temperament around 370 B.C. and others have expanded upon it throughout history. The concept of temperament has been kept in mainstreamed thought through literature, medicine, and philosophy until the 1900s.³¹ During the 1900s, psychologists and physicians expressed differing views on the topic of predisposition including Freud, Pavlov, Watson, Adler, Sullivan, Rogers, and Maslow.³²

³¹ Keirsey, D. (1998). *Please understand me II: Temperament, character, and intelligence*. Del Mar, CA: Prometheus Nemesis Book Company. p. 2.

³² *Ibid.*

Keirsey (1998) grouped temperaments into four areas based on the MBTI personality sorter: Sensor Judgers (SJ, Guardians), Intuitive Feelers (NF, Idealists), Intuitive Thinkers (NT, Rationals) and Sensor Perceivers (SP, Artisans).

Sensor Judgers

Sensor Judgers are “observant,” “scheduling their own and others’ activities so that needs are met and conduct is kept within bounds” (Keirsey, 1998, p. 19), and:

everything should be in its proper place, everybody should be doing what they’re supposed to, everybody should be getting their just deserts, every action should be closely supervised, all products thoroughly inspected, all legitimate needs promptly met, all approved ventures carefully insured.

Myers (1962) described SJs as “conservative,” “stable,” “factual,” “detailed,” and “routinized.” They prefer to follow rules and tend to be responsible.

Intuitive Feelers

The personality type of INFP has an NF temperament. Intuitive Feelers are usually very enthusiastic and warm. They are relational, oriented toward cooperation and away from competition. NFs tend to place high importance on their values, strive to maintain their own individuality and thrive in supportive, creative, harmonious situations. NFs comprise approximately 20% of the general population.

Intuitive Thinkers

The personality types of INTP and ENTP have an NT temperament. Intuitive Thinkers (NT) comprise 15% of the general population. One difference between the NTs or Rationals, and the temperament Intuitive Feelers (NF), is that NTs have a preference

for a conceptual over a relational way of knowing. It is the difference between relating more to a film based on a conceptual a way of being, like *A Beautiful Mind*, as compared to a film based on a relational way of being, or *Patch Adams*, for example. People who are Intuitive Thinkers always want to know “why,” are imaginative, and comfortable in the world of ideas. They like learning for the sake of learning, place high value on competency, and may appear unemotional because they tend not to reveal their emotions.

Other Aspects of Personality

- *Creativity*—Creativity is fundamental to our lives and our well-being. Creative activities add richness, depth, and breadth to our very existence. When we are involved in creative activities, according to Mihaly Csikszentmihalyi (1988, 1990, 1993, 1996, 1997, 1998), we may experience “flow,” times when a person is so deeply engaged in an activity that he or she loses track of time, or when a person engages in a task that is challenging, demands intense concentration, and commitment. Diversity, dissonance, intuition, and imagination also contribute to creativity. Creativity renews us and makes us “whole” (Peat, 2004).³³
- *Openness to Experience*—is one of the Big Five Model,³⁴ a “remarkable but controversial development” to trait approach to personality (Friedman & Schustack is a “remarkable but controversial development” to trait approach to personality (Friedman & Schustack, 2003, pp. 280-281). A high degree of

³³ Peat, F. D. (2004). *Synchronicity: The bridge between matter and mind and the resurrection of spirit in the world*. <http://www.paricenter.com/programs/courses/synchronicity.php>. Viewed August 21, 2004.

³⁴ A trait approach to personality (McCrae & Costa, 1985) that says that there are five dimensions to personality: Extroversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (to Experience), also linked with intelligence and culture.

Openness to Experience indicates that one is imaginative, original, artistic, and intelligent. How willing a person is to consider new experiences, information, and other cultures may reveal his or her worldviews and ability to tolerate ambiguity and uncertainty. There are differences in people's desire to expose themselves to new experiences—some are more willing than others. Some are “always ...sticking out their antennae in every direction: They seek new experiences, they ask questions; they wonder about the world. Other people close themselves off and thereby deny themselves the opportunity to be creative” (Sternberg, 1995, pp. 225-226). Rogers (1976) suggests openness to experience is an important aspect of creativity and contrasts openness to experience with psychological defensiveness. People curious about their world and themselves are open are more willing to expose themselves things that others will not. Costa & McCrae (1985) list several kinds of openness: openness to fantasy, aesthetics, feelings, ideas, and values.

- *Tolerance of Ambiguity*—Some people are comfortable with ambiguity. In fact, they prefer ambiguity because it does not close off possibility; it keeps options open. A related word is “uncertainty.” Sternberg (1995) emphasizes “the importance of finding an environment in which you can capitalize on and be appreciated for your own creativity” (p. 274).
- *Basic Human Needs*—Maslow's (1970) hierarchy of human needs provides a framework for understanding how primary needs impact higher levels of learning. In ascending order of needs are: physiological, safety, love and

belongingness, esteem, self-actualization, aesthetic (beauty and aesthetically pleasing experiences), and cognitive knowledge and creativity).³⁵

Safety is a basic need. If a student feels psychologically or physically unsafe in a learning environment, his ability to learn may be reduced.

Chaos Theory in Education

A number of educators have connected chaos theory and complexity theory with higher education and educational reform. Cutright (2001) considers ways in which chaos theory “might be not only a descriptive metaphor for the conditions of leadership, planning, and policy in higher education, but indeed a prescriptive metaphor, the utilization of which might improve these functions and others” (p. 1). Administrators, faculty, deans, vice-presidents, and presidents of universities, two-year colleges, and liberal arts colleges from several nations have contemplated and utilized the metaphor of chaos theory in higher education.

We draw inferences, set goals, make commitments, and execute plans, all on the basis of how we in part structure our experience, consciously and unconsciously, by means of metaphor (Lakoff & Johnson, 1980, p. 158).

For example, Cutright (2001) also describes a master plan for higher education in Virginia, of how chaos theory may be used as an analytical framework. Cutright describes the application of chaos theory in the following way:

A mathematical concept called . . . 'chaos,' holds that at certain points small changes within systems will produce great and unpredictable results. 'chaotic' situations [are] nonlinear: the future does not follow trends established in the past...What [chaos theory] represents to us is the probability that the future will not be simply a linear extrapolation of the

³⁵ Hall, C. S., Lindzey, G., & Campbell, J. B. (1998). *Theories of personality (4th ed.)* New York: John Wiley & Sons.

past, that small events happening today will cause new patterns to emerge downstream.³⁶

Chaos and complexity describe “a holistic process of transformation . . . a process that emphasizes coherence and the process that unfolds through adaptation” (Butz, 1997, p. 238). Although originating in the hard sciences, Butz calls for an integration of chaos theory in “the culture itself on the level of feelings and emotions” and “ides and symbols” (p. 238). Butz also suggests that science “will need to expand the reference of this new myth and make bridges though metaphor and analogy so that the larger culture is able to understand that chaos and complexity are a natural part of adaptation” (p. 238).

Carr-Chellman (2000) suggests that, directly and metaphorically, chaos, complexity, and dynamical systems thinking and general systems thinking address “the call for a deeper understanding of the current situation in educational systems, and a broad exploration of the usefulness of these theories to the creation of new educational systems” (p. 28). The new sciences “. . . so unlike the current educational theories,” can provide new areas of understanding in education; moreover, “self-organization cannot occur in a system that is controlled by ‘experts’ and models of solution-generation” (pp. 28-30). The hierarchical structure of the current system in higher education precludes natural self-organization.

Goff (1998) describes how chaos theory can be a metaphor and used as a lens to view the curriculum development process. Iannone (1995) suggests that chaos theory can be an alternative to the current “scientific deterministic paradigm of curriculum and teaching” (p. 541). Like Goff and Iannone, Doll (1993) sees the value of applying concept of chaos and complexity to education and especially curriculum:

³⁶ Commission on the University of the 21st Century, inside back cover, p. 4

What we really have now is not only a new way of dealing with nature, but the beginning of a new cosmology -- one scientific and spiritual, metaphysical and mystical, playful and serious . . . and most important, especially for curriculum, how self-organization . . . becomes the pivotal focus which open systems work. (p. .98)

Chaos theory has led to a more recent set of ideas called complexity theory, or the edge of chaos.

Multiple Layers and Multiple Systems

Embeddedness

We are inherently embedded in dynamic systems. “Different scales of social life cannot be viewed as hierarchical, distinct and mutually exclusive,” says Kelly (1999), “but rather as simultaneous and nested loci where social processes are played out” (p. 396).

Bronfenbrenner (1979) takes a systems approach to human development, perceiving multiple systems: the microsystem, or actual setting in which the person lives; the mesosystem, or “relationships between contexts” (Garbarino, 1982, p. 23); exosystem, or power structure in which the individual has little or no control; and the macrosystem, or culture. Garbarino (1982) believes that the microsystem is most important for a child (p. 25). Delone (1979) suggests that the context a child is closest to greatly impacts his or her well-being. He says:

To the large developmental contexts of class and caste one must add more: intimate ones of which school, neighborhood, and family are clearly among the most important. For young children, especially, it is through these intimate contexts that contact with the broader dimensions of class, race, and the social and economic order is made. (pp. 158-159)

Community plays a vital role in the development of students suggest Obiakor, Grant & Dooley (2002), elaborating on Bronfenbrenner's (1979) notion that each student's development is embedded in four interrelated environmental systems:

- Macrosystem, or broad historical and cultural events or experiences
- Exosystem, or social networks, local government, and places where parents work
- Mesosystem, such as day care centers, school, peer systems
- Microsystem, or home, family group—mother, father, child, siblings³⁷

Each of these nonlinear systems helps shape the development of the child in myriad ways. The developing child as adult student is embedded in multiple contexts that simultaneously shape him and are shaped *by* him through the choices he makes and his interactions and experiences with others. How families respond to the needs of their children depend partly by their social structure: “by local canons of values, or collective wisdom (Gray, 1996, p. 265). In turn, the social structure “arises out of shared human experience (Gray, p. 273).

In light of Bronfenbrenner's concepts, I loosely designed my inquiry to explore and reveal four dynamic dimensions of the environmental systems, or layers, in which a student is embedded:

- Self and inner dissonances as revealed through narratives, reflective writing, secondary documents, and a psychological instrument
- His perceptions and interactions of the classroom with faculty and their teaching pedagogy, curriculum, and his classmates

³⁷ (Obiakor et al., 2002, p. 102)

- His perceptions and interactions of the university
- His perceptions and lived experiences of the greater community, or social context; his friends and family, and other institutions outside the university

I looked for multiple levels of oscillation: within the individual, in the class, in the university, and outside the university to discover what the strange attractors were for each student. To imagine strange attractors, as Kauffman (1995) puts it: “We can roughly think of an attractor as a lake, and the basin of attraction as the water drainage flowing into that lake” (p. 78).

The Individual in Context and Blaming the Victim

It is common for many people to label or think of individuals who seem different than the mainstream as outliers, erratics, “puzzles to science, or worse, monstrosities” (Gleick, 1988, p. xi). In the case of students, such labels include “lazy,” “slackers,” or “stupid.” Instead of considering why individuals may differ, or the social context in which such differences occur, people may instead “blame the victim.” Ryan (1976) identifies the phenomenon of blaming the victim and describes how and why it occurs. He contends that many people “blame the victim” unintentionally or intentionally, and considers this phenomenon to be an insidious problem in America. Ryan believes that the problem of blaming the victim can be and “is applied to almost every American problem (1976, p. 5). For example, health care of the poor is “explained away on the grounds that the victim has poor motivation and lacks health information” (Ryan, 1976, p. 5). People blame individuals or groups of individuals for their poverty, ill health,

homelessness, mental illness, and poor education rather than looking at the individual in context or social and cultural framework.

What Ryan calls individualism versus universalism is at the heart of the issue. If one only looks at the individual as the problem, the solution will be to try to fix the individual. If one sees social or cultural framework as the problem, then the solution will be to try to change the social structure, an almost overwhelming task because of the embeddedness of social attitudes, motivations, and personalities.

Others, at best, may see disaffected students as troubled. Administrators, faculty, peers may label such students “disturbed” or “mentally ill”—demonstrating a “blaming the victim” mentality. Disaffected students themselves may blame themselves for not being engaged or for not thriving in a rigid university classroom. I suggest that being disaffected need not imply that the disaffected student is one who must be “fixed,” rather the social contexts, the experiences, the university and faculty attitude towards the student must be altered in order for the male undergraduate student to find his way, to emerge from the turbulence a whole person, engaged, and thriving.

Strange Attractors and This Inquiry

Although I have already briefly discussed strange attractors, more needs to be described to clarify parts of my study. I use Gleick’s (1988) explanation of what constitutes a strange attractor and the meaning and information it expresses, in an instant, and over time

In phase state the complete state of knowledge about a dynamical system at a single instant in time collapses to a point. That point *is* the dynamical system—at that instant. At the next instant, though, the system will have changed, ever so slightly, and so the point moves. The history of the

system time can be charted by the moving point, tracing its orbit through phase space with the passage of time. (p. 134)

Such knowledge is meaningful to my study in that, by thinking of a student's behavior, attitudes, and strategies in a moment and over time, I can simultaneously get a sense of how he is changing, what prompts the change, and get a sense of him as an individual system and as part of a dynamic system—both discrete yet connected.

The patterns formed between these points are called strange attractors; its loops and spirals never intersect or join. Edward Lorenz graphed the first strange attractor in 1963, yet an attractor can be a single point (Gleick, 1988, p. 137). The graphed paths in the Lorenz Attractor resemble the shape of a butterfly, yet no paths intersect.

Attractors cause oscillation. Attractors pull a system back and forth between fixed points, a high and a low point, thus creating oscillation. Stress or tension on a system causes it to move toward and away from attractors. People, groups, learning communities, organizations, activities, beliefs, values, ideas, personality preferences, and more act as strange attractors for male undergraduates.

Synchronicity

Jung (1875-1961), who coined the term “synchronicity,” viewed synchronicity as a possible component in the process of self-realization. Mansfield (1995) describes synchronicity as “an *acausal* connection of inner and outer events through meaning” (p. 20). Engler (1999) defines synchronicity as

a phenomenon in which events are related to one another through simultaneity and meaning. In synchronicity, two events occur either at the same time or close in time (simultaneity), and though they happen independently, they seem inextricably linked (meaning). (p. 83)

Such phenomenon may be explained as “meaningful coincidences”—connections between the subjective and objective world—related “through simultaneity and meaning” (Engler, 1999, pp. 83-84). James Joyce called them “epiphanies,” “those moments of illumination when disparate events coalesce into a recognizable pattern” (Peat, 2004).³⁸ Although synchronistic events may defy logic, they are transcendent, “they . . . reveal to us an underlying world of patterns, forms and connections that transcend any division between the mental and the material” (Peat, 2004).³⁹ Synchronicities may also be bifurcations; “function as transformative meeting points that occur at crucial periods in our lives” (Peat, 2004).⁴⁰ Participants in this study spoke of event where they just “coincidentally” happened to hear about a learning community on campus or “coincidentally” met certain persons who greatly impacted their lives.

Jung was interested in the “symbols, patterns, and experiences that transcend the boundary between matter and mind, between inner experience and exterior objective,” and believed that events and symbols dreamed may emerge in the material world (Peat, 1991, p. 3). Jung believed synchronicities were acausal connections not “restricted by time or space and transcend the boundaries between mind and matter” (Peat, p. 5).

As an example of synchronicity, Jung (1960) encountered such an event during a therapy session with a patient “who was experiencing considerable intellectual resistance to therapy,” (Engler, p. 83). Engler tersely describes the event:

[The patient] described a dream in which she was given a golden scarab. At that very moment, Jung heard an insect tapping on the window. He let the bug in, caught it, and, noticing that it was a close insect relative to the sacred Egyptian beetle in her dream, presented it to the patient with the

³⁸ Peat, F. D. (2004). *Synchronicity: The bridge between matter and mind and the resurrection of spirit in the world*. <http://www.paricenter.com/programs/courses/synchronicity.php>. Viewed August 21, 2004.

³⁹ Ibid.

⁴⁰ Ibid.

word, 'Here is your scarab.' The event broke the ice of her rationalism and permitted the therapy to move forward. (pp. 83-84)

Van Eenwyk (1991) suggests that chaos theory clarifies Jung's theory.

Qualitative Research and Methodology

Qualitative, Naturalistic, Interpretive Inquiry

I knew that statistics alone would not reveal much of the story males had to tell. How could statistics possibly provide a description of the embeddedness of students in the context of the university, a recounting of their myriad interactions with others, reveal their frustrations, stresses, and joys of self-organization, learning, and discovery? Only a qualitative and naturalistic inquiry could convey a sense of what male undergraduates experience, how they perceive their reality, and how they become engaged in meaningful and connected learning; and reveal the processes that could result in a deeper, more insightful study.

My Preferred Paradigm

A paradigm, or worldview, is "The net that contains the researcher's epistemological, ontological, and methodological premises may be termed a paradigm, or an interpretive framework, a 'basic set of beliefs that guides action'" (Guba, 1990, p. 17). My preferred paradigm is what Patton (1990) calls "a paradigm of choices"—one that "rejects methodological orthodoxy in favor of methodological appropriateness as the primary criterion for judging methodological quality" (p. 39). What matters, says Patton (1990), is whether or not the methods used fit the "purpose of the inquiry, the questions being investigated, and the resources available" (p. 39). The multiple methods used in

this study are an appropriate fit for the purpose of this study, the complex questions asked, and the available resources.

The paradigm Peter Schwartz and James Ogilvy (1979) describe further elucidates my preferred paradigm. Schwartz and Ogilvy describe a new paradigm that synthesizes concepts from physics, chemistry, brain theory, ecology, evolution, mathematics, philosophy, politics, psychology, linguistics, religion, consciousness, and the arts.⁴¹

From this synthesis, Schwartz & Ogilvy compile seven major characteristics of this new paradigm⁴² (verbatim). There is movement from:

- Simple to complex realities
- Hierarchic to heterarchic concepts of order
- Mechanical to holographic images
- Determinancy to indeterminancy
- Linear toward mutual causality
- Assembly to morphogenesis
- Objective to perspectival views.

Put another way, they see complex and co-created realities, unorthodox concepts of order, holographic, or 3-D images, uncertainty, emergence, metamorphosis, and perspective views.

Furthermore, my preferred paradigm is constructivist. I believe there are multiple realities, that knowledge and understandings are co-created, and that qualitative methods can best reveal and express the complexities of human perceptions and behaviors: “The constructivist paradigm assumes a relativist ontology (there are multiple realities), a

⁴¹ In Y. Lincoln & E. Guba (1985). In *Naturalistic Inquiry*. Newbury Park: Sage Publications. p. 51.

⁴² As described by Y. Lincoln & E. Guba (1985). In *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications. pp.51-55.

subjectivist epistemology (knower and cocreate understandings), and a naturalistic (in the natural world) set of methodological procedures “ (Denzin & Lincoln, 2000, p. 21).

The ontological assumption of a naturalistic inquiry is that subject and object construct reality through their interactions; between the knower and that which is known. In constructivism, unlike objective realism, one’s individual and social perception creates relative truth and knowledge and is context-specific (Guba & Lincoln, 1989).

Through the Lenses of Chaos and Complexity

Patton (1990) believes that chaos theory and non-linear dynamics are perspectives that ask the question, “What is the underlying order, if any, of disorderly phenomenon?” (p. 88). In this inquiry, I sought to discover if there *is* an underlying order in the lives of students. Chaos theory as a lens for inquiry is a good fit for my study and the phenomena that are the focus of my inquiry.

As I studied the individual learners in their multiple contexts, I tried to see what the strange attractors were for each student—the interests, expectations, and requirements that create the loose boundaries or patterns of behaviors for each person. To aid in this exploration, I designed the first set of questions used in the first interview around concepts from chaos theory.

Metaphor and Schema Analysis

I am grounded in metaphor. Because my background includes a Bachelor of Arts degree in English with emphasis on comparative literature and culture and an additional major in Psychology, I instinctively framed my analyses through metaphor and themes.

Metaphor links concepts and creates new concepts and meanings. The use of metaphor has always been a natural way of expression and analysis for me. For example, for my envisionment in a learning community (2000), I used the metaphors of a cocoon to demonstrate the processes of metamorphosis or transformation, chaos, emergence, and to describe the impact environment has on the individual; a crystal prism to describe the process of discovery, brilliance, reflection, environment, and depth of one's ideas and emotions; and a muffin to demonstrate ways of knowing, processes in knowledge and learning, and our own and others' perceptions.

A schema is “a way of looking at the world that organizes past experience and provides a framework for understanding future experiences,” says Quinn (1982, 1987, 1992, 1996, 1997). Schema analysis begins with readings of verbatim texts, and discovering themes. Quinn used this method in her research on American marriages to “discover concepts underlying American marriage and to show how these concepts are tied together” (Denzin & Lincoln, 2000, p. 784). Schema analysis is used to “exploit clues in ordinary discourse for what they tell us about shared cognition—to glean what people must have in mind in order to say the things they do” (p. 140). Quinn looked for patterns of speech, repetition of key words and phrases and metaphors, and connected hundreds of metaphors from texts into eight linked classes (Ryan & Bernard, 2000, p. 784).

I employed the same process in analyzing the data I collected. Quinn used metaphor and schema analysis in her study of American marriages, but the same kind of analysis was easily and meaningfully used in my study of male undergraduate students. I

looked for metaphors, themes, patterns, repetition of key words and phrases in the data and looked for connections.

As another example, in her research, Price (1987) observed that people automatically assume others share their worldviews, so they “leave out information that ‘everyone knows’.”⁴³ She used schema analysis to determine what was not being said in peoples’ stories—a method that was very useful in my research with reticent male students. I searched for what was not being said and designed questions for the second interview that might elicit revealing response from the respondents.

⁴³ Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publication, pp.769-802.

CHAPTER THREE:

METHODOLOGY

But after years of seeing so much attention devoted to methods, I think I finally realized that only *understanding* matters, not how we arrive at it. Qualitative inquiry neither can nor...needs to stand on methodological claims-making. We can give that one away; insight is our forte.

Harry Wolcott, 1994, *Transforming Qualitative Data*

Overview of Study

As materials in Chapter One make evident, in recent years, a number of male undergraduates across the nation have shown themselves to be disaffected with their university and social experiences. This study is an inquiry into the phenomenon of male undergraduates who are currently experiencing or have experienced chaos and complexity in their academic journey, into their perceptions of their lived experiences, and into the strategies they used to adapt, cope, and thrive in the university environment.

After I began the study of eight male undergraduates, I proceeded to discover as much as possible about the initial conditions of the participants, although aware that an understanding of initial conditions would be limited. In complex adaptive systems, only a fragment of the initial conditions might be understood: “it is impossible to know all of the initial conditions at any point in time” (Sanders, 1998, p. 68). Humans, as complex adaptive systems, are “open nonlinear evolutionary systems . . . that are constantly processing and incorporating new information” (Sanders, p. 69).

I conducted two interviews per student. The first interview was semi-structured with open-ended questions and framed in concepts from the new sciences—chaos and complexity theories. The second interview was semi-structured, with open-ended

questions based on themes or areas of interest that emerged from the first interview (see Appendix A). In the two sets of interviews, I queried male undergraduates about their perceptions of their lived experiences; their interactions with their peers, faculty, family, and others; and their ways of coping with change and making difficult, complex choices.

In addition to the interviews, I invited participants to communicate their thoughts and feelings with me through other media, including such original compositions as essays, drawings, photographs, poetry, or stories. Participants shared photographs they had taken or photographs of themselves, original poetry, music preferences, essays, and reflections. I also looked for themes in any relevant secondary data.

In analyzing and interpreting the materials I collected through the interviews, compositions, psychological test, and secondary data, I used narrative analysis and looked for themes and patterns, using coding in the process of analysis. I employed insights and concepts of chaos and complexity theories, learning theories, theories emerging from brain research, theories from various areas of psychology, and literature on consciousness, meaning making, and alternative learning environments. I anticipated that the data would align with some existing theory.

To help students learn more about themselves, to enhance discussion with them, and in hopes of revealing or showing indicators of future disaffected students, I administered the Myers-Briggs Type Indicator (MBTI), a psychological instrument commonly used in education, business, and organizations to sort and reveal individual personality preferences in behavior, attitude, and judgment. I also wanted to see if there were any commonalities in their personality preferences and temperaments. I used the MBTI because it is widely used in various fields including business, education, and

health, it is easy to administer and to take, it is not invasive like the Minnesota Multiphasic Personality Inventory (MMPI), it is easy to score, it is friendly to the subject interacts with the researcher by validating his or her results, and it is a reliable and valid psychological tool.

Research Design

Emergent Research Design

I used qualitative research methods for this inquiry because they can be “endlessly creative and interpretive” (Denzin & Lincoln, 2000, p. 23). Given the exploratory nature of this inquiry, an emergent research design was a good fit. An emergent research design, (Strauss & Corbin, 1998), allows

the research design to emerge (flow, cascade, unfold) rather than to construct it preordinately (a priori) because it is inconceivable that enough could be known ahead of time about the many multiple realities to devise the design adequately; because what emerges is a function of the interaction between inquirer and phenomenon is largely unpredictable in advance; because the inquirer cannot know sufficiently well the patterns of mutual shaping that are likely to exist; and because the various value systems involved (including the inquirer’[s own) interact in unpredictable ways to influence the outcome. (p. 41)

Sampling Procedure

Self-Selection

I originally planned to use purposive sampling, and to ask advisors of undergraduate students and also faculty in various environmental studies programs to identify those male undergraduates they thought would be a good fit for my study. Advisors of undergraduates and faculty would either contact the students themselves or provide me with a list of names, and then I would contact the students.

In preparation for my study, I informally talked to advisors and faculty about their concepts of disaffected students. During a casual conversation, one faculty member stated that his or her definition of a disaffected student was “a slacker.” After this faculty member so indicated a bias toward those students who did not simply assimilate facts, produce the goods, and move on. I decided not to include faculty to elicit names.

I had also planned to be a source to identify students. I knew some students who might have stories to tell as a result of my experiences with them in a core environmental studies course: from reading their weekly reports, from hearing their comments and responses to issues raised in class, from my observations of their actions on field trips, and from my experiences in a learning community.

Because I knew that most freshman go through a period of transition during their first semester of school, I set a limit of sophomore through senior level. I composed an invitation to participate, and used multiple ways of sending the e-mail to students in three environmental studies programs and learning communities, and sent the e-mails in the middle of September 2003 (see Appendix A, Invitation to Participate). One advisor of an environmental learning community forwarded my e-mail to all enrolled students in that program. Another advisor sent me a compilation of names and e-mail addresses, and I e-mailed the invitation to all undergraduates on the list. I also sent an e-mail to the list of students with whom I had contact in the classes co-taught on campus. In my e-mail, I included the title of my study and the following paragraph so students could get a sense of what I was looking for:

If you are a male undergraduate in environmental studies in your sophomore, junior or senior year, and would like to share your lived experiences, your frustrations, your strategies for coping in a complex and chaotic academic environment, and more, here's your chance!

I also included a paragraph that asked and answered the question:

Why should you volunteer to participate in this project? Your voice will be heard and honored. You will be able to share your experiences, frustrations, strategies, philosophy on teaching and learning, social interactions on campus, your interactions with faculty and your peers. You may be relieved to know that others may have experienced or are currently experiencing similar situations. Your story may also prompt change in higher education.

Faculty in environmental classes also passed a copy of my invitation around their classrooms so interested students could contact me directly.

Participants

Eight male undergraduates out of 300 males in environmental studies programs from three departments and learning communities at a large, land-grant institution in the Midwest self-selected into my qualitative, naturalistic, exploratory study. Students self-selected either by replying to my e-mail invitation, or by talking to me face-to-face. Male undergraduates ranged in age from 19 to 27, and were in their sophomore, junior, or senior years at school. Of the eight who responded, four were seniors, one was a junior, and three were sophomores. I chose self-selection as a means of sampling for several reasons: 1) To avoid jeopardizing advisor-student confidential or faculty-student confidentiality, and 2) To ensure that those who participated had something they wanted to say about their academic experiences and wanted their voices to be heard. I also chose a method of self-selection because I assumed that the males who responded to the e-mailed invitations would be the ones who had something they wanted to say in a way similar to what Frank (1995) describes:

Events are told as the storyteller experiences life: without sequence or discernable causality. The lack of any coherent sequence is an initial reason why chaos stories are hard to hear; the teller is not understood as telling a 'proper' story. (p. 97)

Not knowing what lived experiences the participants would relate or having any idea about their perceptions of those experiences, I tried to be sensitive to what was *not* being said when I analyzed data because, as Frank (1995) says,

Those who are truly *living* the chaos cannot tell in words. To turn the chaos into a verbal story is to have some reflective grasp of it. The chaos that can be told in story is already taking place at a distance and is being reflected on retrospectively. In telling the events of one's life, events are mediated by the telling. But in the lived chaos there is no mediation, only immediacy. The person living the chaos story has no distance from her life and no reflective grasp on it. Lived chaos makes reflection, and consequently story-telling impossible. (p. 98).

Seven participants are part of two departments or learning communities, and one is part of three departments or learning communities. All eight share one or more learning communities in common. I believe all had experienced chaos, turmoil, and disaffection while at school and most had emerged from the chaos self-organized, self-directed, and wiser, and as three indicate, "happier." Two of the eight, I believe, are still in chaos, still searching and self-organizing.

Code Names and Confidentiality

To help ensure confidentiality in the write up of this study, I did not use the actual names of the participants. I invited each person to choose a code name for himself that I would use in the write up. Five of the eight participants chose their own code names, and the other three asked me to choose names for them.

Sample Size

In qualitative research, Kvale (1996) says, “the number of subjects tends to be either too small or too large”; the number of participants necessary in a study “depends on the study’s purpose . . . If the purpose is to understand the world as experienced by one specific person, this one subject is sufficient” (p. 102). Kvale cites several studies with few or just one subject: Ebbinghaus was the only subject in natural science psychology; Piaget’s own children were the subjects in his study of children’s cognitive development (p. 102).

Benefits of a small sample size include making it possible to “investigate in detail the relationship of a specific behavior to its context,” and “to work out the logic of the relationship between the individual and the situation “ (Kvale, 1996, p. 103).

Data Collection Methods

As a human research instrument, I used myself as the primary data-gathering tool because only the human can identify and take into account value-based, value-laden data. I conducted my research in a natural setting for the students.

I tried to utilize tacit knowledge, that is, the intuitive, felt knowledge, in addition to expressed knowledge because “only the nuances of the multiple realities can be appreciated only in this way” (Strauss & Corbin, 1990, p. 40). I used multiple qualitative methods to collect data. I used interviews, conversation, observation, original compositions, a psychological instrument, and document analysis. Qualitative methods are more flexible and sensitive to “the many mutually shaping influences and value patterns that may be encountered” (p. 40).

The bulk of data came from the interviews and from my conversations with participants. Original composition and secondary data served to enhance, clarify, or verify my findings from the interviews.

Because I had multiple data sources, I used multiple methods to analyze data. The data I collected came from different sources, including in-depth interviews—two per participant, students' original compositions, among them, essays, poetry, reflections, and photographs, secondary documents, my own observation, and researcher's field notes and methodological and reflective journal. I asked participants to verify and clarify my findings and to edit their transcripts because I wanted to make certain that I accurately documented what they said. So interviewees might feel more comfortable as we explored sensitive issues and topics, I chose not to tape first interviews. We also discussed themes as they emerged during the interviews.

We are conscious of many things, although it often takes self-reflection to reveal some of them—our worldviews, our memories, our ways of seeing the world. But the conscious part of us is only a small part of our being. It is almost impossible to know what is going on at the unconscious level in ourselves, as humans are always in the process of becoming, so how do we discover the unconscious self in others?

Writing as a Reflection of Self

I chose to include original composition as data because what and how a person writes is very indicative of who he or she is. Choices a person makes are significant—it is impossible for a human being to do anything that is not significant. What we choose to see, the things that capture our attention and grab us by the heart, reveal much about our

perceptions, our values, our beliefs, our ways of knowing, and our personalities. As an English and Psychology major, I learned early on that what one writes and the genre one chooses reveals one's authentic self.

Words on the page may not profile or reflect exactly who their creator is, but *how* they are put together speaks loudly of our culture, society, personality, education, and previous experiences. A verbal pattern may be deliberate and predictable as in an iambic pentameter line, which contains ten syllables and stresses on every second syllable. Or, a pattern may be improvisational and unpredictable as in lines bound together by anaphora, the repetition of words or phrases at the beginnings of successive clauses.

Over time meaning, themes, and patterns emerge from the type of writing one does—poetry, autobiography, fiction, opinion pieces, long tomes, or short stories. For example, Sylvia Plath's "Daddy" and "Tulips" reveal a sensitive, disturbed woman. Edgar Allen Poe's *The Haunted Palace*, "A Descent into the Maelstrom," "The Fall of the House of Usher," and "The Pit and the Pendulum" reveal the depths and breadth of Poe's inner turmoil. Meaning may emerge as much from the single sentence as from a volume as the reader connects with the writer in some way—the writer's story becomes our story. The works of Shakespeare reveal humor, a sense of tragedy, romance, and conflict.

Writing is not only a reflection of the author, the *process* of writing changes the reader individually, and society collectively. Virginia Woolf's *A Room of One's Own* speaks not only of Woolf's desire to have a place and space to be creative and to express who she was, it also reveals women's restrictions in the period and society in general.

Students signify when they choose to express themselves through a poem rather than an essay.

Interviews

“Narrative is useful only to the extent that it opens up (to its audiences) a deeper view of life in familiar contexts: it can make the familiar strange, and the strange familiar.”

Clough, 2002, p. 8

The data for the study derives from the interviews and original compositions (including reflective writing, poetry, personal essays, posters, newsletter articles, and photographs). Secondary data (data not generated by this study) comes from papers written for other classes; articles written about the students; the results obtained by a psychological instrument—the Myers-Briggs Type Indicator (MBTI); the Researcher’s Field Notes and Methodological Journal; Memos; and my own observations of participants during the study.

Interviewing is a method suited for “studying people’s understanding of the meanings in their lived world, describing their experiences and self-understanding, and clarifying and elaborating their own perspective on their lived world” (Kvale, 1996, p. 105).

I conducted two semi-structured, open-ended interviews. I chose interviewing as a method for data collection for several reasons. The first is that the depth interview, say Miller & Crabtree (2004) “is a powerful qualitative research tool when the focus of inquiry is narrow, the respondents represent a clearly defined and homogeneous bounded unit with an already known context, the respondents are familiar and comfortable with the interview as a means of communication, and the goal is to generate themes and

narratives” (p. 186). The respondents in this study are a “clearly defined and homogenous bounded unit”: male undergraduates in environmental studies, and a specific goal in this study is to “generate themes and narratives.”

Depth interviews use “open, direct, verbal questions that elicit stories and case-oriented narratives” that emphasize the “co-construction of the interviewer’s and an informant’s experience and understanding of the topic of interest” (Miller & Crabtree, 2004, pp. 188-189). Depth interviews are “personal and intimate,” and emphasize “depth, detail, vividness, and nuance,” and open the way to “understanding how particular individuals arrive at the cognitions, emotions, and values that emerge from the conversational journey” (p. 200).¹

Those who conduct depth interviews usually select respondents “so as to maximize the richness of information obtained pertinent to the research question” (Miller & Crabtree, p. 191). However, I did not select specific respondents, instead, they self-selected into my study. The sampling was homogenous in the sense that all respondents were male, undergraduates, in environmental studies programs, and all wanted to participate.

I conducted two interviews per student: one semi-structured interview with open-ended questions framed in concepts from the new sciences—chaos and complexity theories, and one interview with open-ended questions based on themes or areas of interest that emerged from the first interview (see Appendix C for Interview Protocol). In semi-structured interviews, the investigator uses an interview guide, but the questions are open-ended so as to encourage respondents to explain using as much detail as possible. I

¹ Rubin & Rubin, 1995, p. 76 as cited in Miller & Crabtree, 2004, p. 188.

intended to have the first interview serve as the base for the second interview. Also, asking each participant the same questions makes it easier to analyze the data.

In addition to formal interviews, I had many casual conversations with participants during the course of this study. Participants signed consent forms before we began the interviews (see Appendix B).

In psychological research, the initial condition is the subject's condition when the research begins, so I tried to get a sense of where the student was *now* psychologically, and how he had changed over time since he came to the university. In those interviews, I questioned male undergraduates about their perceptions of their lived experiences; their interactions with their peers, faculty, family, and others; how they coped with change and how they made difficult and complex choices.

I began interviewing students at the end of September 2003 and concluded the last interview in the middle of December 2003. I interviewed every student but one twice for a total of 15 interviews (see Appendices D & E). The interval between interviews for each student varied from two weeks to five weeks. One student I interviewed only one time due to his work schedule.

I did not tape the first interviews with participants because I wanted them to be comfortable sharing personal information with me and to feel safe. Because I was satisfied that the most sensitive material had emerged during the first interview, and because I wanted to spend time observing the participant instead of taking notes, I decided to tape three of the interviews in the second set. I transcribed all the interviews verbatim. I transcribed my notes from the first interviews and then asked each participant to edit them as needed so that I documented what they said and what they meant. In

addition to observing body language, I noted when an interviewee had showed anxiety by changing his patterns of speech. Each interviewee had his own style of speaking and unique speech patterns that were not comparable to the other participants.

Each interview was scheduled to last between an hour and an hour and a half, but most ran longer. Of fifteen interviews, only two lasted just one hour; most conversations lasted between two and even three hours.

Interview Process and Protocol

Before we began an interview, participants signed a consent form. Each had a copy of the consent form, and we read it together (See Appendix B). I reminded each participant that he could stop the interview at any time, could refuse to answer any questions that made him uncomfortable, and could even leave the study at any time with no repercussions.

Interview #1

In the first interview, I asked interviewees ten questions based on concepts of chaos and complexity theory. I designed the first question in the first interview to acquire an overall sense of how participants perceived their current psychological, emotional, and academic states, and to illuminate students' change over time from their initial experience with the university to the day we interviewed. Interviewees selected their own entry point as I read them the first question. Question #1 is as follows:

- How would you describe your current conditions, experiences, interactions, relationships, or frustrations?

- Are these conditions, experiences, interactions, relations, or frustrations different from when you first came to [this university]? In what ways?

I purposely designed Question #1 to be holistic, general, or specific, depending on interviewees' interpretation. I wanted provide them a space for flowing thought where they could reveal their lived experiences and perceptions without having to break down life events into specific categories. Questions #2 through #9 were designed to clarify Question #1, and approached the same issues in Question #1 from slightly different perspectives (see Appendix D).² Question #10, however, created space for participants to talk about whatever they chose (see Appendix D).

Interviewees spent a large part of our time together responding to Question #1. I explained to them that some questions were redundant but that each might elicit additional responses or memories. Question #10 was an opportunity for each interviewee to tell “the rest of your story,” a space to talk about anything; a space for casual conversation similar to the kind of conversation held by students and faculty after a class, or the informal engaging after a meeting. Interviewees relaxed shared more as they responded to Question #10. They wanted to talk about their frustrations and experiences—and they clearly wanted someone to listen to what they had to say. Questions #1 and #10 provided the majority of the data we co-created; they stimulated more responses from the interviewees than did the other questions

² Even though APA style says numbers one through nine are words, and ten and up are numerals. I use all numbers when referring to specific questions throughout the discussion of the interviews to correspond with Appendices D and E.

Interview #2

After transcribing the first interviews, I drew on emerging themes or need for clarification to create individual questions for each participant in the second interviews (see Appendix E).

In the second interview, I asked four identical questions of each participant, but the rest of the questions were different for each participant. In the second interview, I asked each participant the following four questions:

1. Are there any additions, deletions, or edits you would like to make?
2. Would you describe your ideal learning environment?
3. If you were a professor, how would you teach your classes?
4. If you could change anything about this university, what changes would you make?

I asked these four questions of each interviewee to increase comparability, to triangulate data in a sense, creating a parallel to some of the questions and themes from Interview #1, and to gain further insight into what they had previously shared.

Documents: Original Compositions Including Reflective Writing, Poetry, Personal Narrative, Posters, Newsletter Articles

One reveals one's innermost thoughts and unconscious desires through writing. What dwells in the unconscious is revealed—the patterns we perceive, the connections we make. In addition to the interviews, I invited these male undergraduate participants to communicate their thoughts and feelings with me through other media, including original compositions such as written essays, drawings, photographs, poetry, or stories.

Participants shared with me photographs they had taken or photographs of themselves, original poetry, music preferences, essays, and reflections. I also looked for themes in any relevant secondary data.

One student gave me a mixed CD of his favorite music and six photographs. Another student shared photographs and sat with me for an hour while he explained what each meant to him (I also taped this conversation). Three students shared several reflection papers they had written for other classes; one student shared a 35-page learning journey document and a poster he had prepared for a presentation; and, one shared three original poems he had written. I also gathered secondary data in the form of newsletter articles they had written, newsletter articles that were written about them, and documents produced during classes I had participated in with them.

Selections of Music

The kind of music one prefers or connects with is representative of how our brains work. A student may prefer to demonstrate his perceptions and thoughts through a particular kind of music. Two of the participants shared selections of music with me. One student even used music as way to pace his time studying. He would play a particular CD, and when the music ended, he knew it was time to change subjects and move on to a different assignment or project for another class. I listened to the music, noting themes in the songs that might provide additional insight to the interviews and other data.

Photographs as Visual Narratives

I invited students to take photographs of things that represented how they perceive their world and their day-to-day experiences and who or what made their world richer, safer, more interesting, or freer. The process of photoanalysis is much like using art as a psychological tool for analyzing young children (Walker, 1993). Some participants shared photographs they had already taken or had been taken of them. Some provided written explanations of the photos and others wanted to sit down and discuss them face-to-face at length. There were 18 photographs that students either shared with me or that were taken of them during class trips.

Photoanalysis was a rich source of information in my study. Akeret (2000), a psychotherapist who includes photoanalysis as part of therapy with his patients, notes, “There is more going on in most photographs than we usually see—and that ‘more’ is endlessly fascinating” (p. 13). One needs to be creative and open to whatever emerges in the process of analyzing photos. Akeret suggests that:

By looking at photos with a critical eye and a fluid imagination, we see stories emerging: stories about the complexities of relationships; stories about personal quirks and desires; stories about how life changes and how it remains the same; stories about how time and place shape our lives.
(p. 13)

Moreover, photographs “have a special language of their own, and *all* photographs tell a story” (Akeret, 1973, p. 9). Photoanalysis is qualitative and subjective and is “more art than science, more akin to literary analysis than it is to data analysis. It is a form of critical free-association stimulated by images” (Akeret, 2000, p. 14).

Individually or in a series, photographs reveal conscious and unconscious behaviors, generating intimate knowledge of those photographed or of the photographer.

Photographs are a way to access the complexity and multidimensionality of people:

Dreams, body language, slips of the tongue, and handwriting, photographs reveal significant aspects of individuals and are lasting records of our lives and deeds. From them we can accumulate significant and valid knowledge about ourselves and others—knowledge that is frequently beyond external observation or otherwise obscured. (Akeret, 1973, p. 9)

The subjects, objects, or context in photographs may also serve as metaphors to describe what a student perceives or is feeling.

Psychological Instrument: Myers-Briggs Type Indicator (MBTI)

I invited each participant to take a psychological instrument called the Myers-Briggs Type Indicator, and each participant did take it either before or after our interview or at a separate time. The MBTI is widely used in education, business, and organizations to identify personality preferences. Personality preference is only one part of whole-person exploration and is only part of the story.

Because I am qualified to administer and analyze the MBTI, I hand scored each sorter, then returned it to the student for his verification. Three of the eight participants had taken the MBTI before in various classes and I had those results for comparisons. From the MBTI results, I was able to discern the participants' temperament as well as their personality preferences.

Researcher's Field Notes and Methodological Journal

Analysis began immediately after each interview, and, after each interview, I wrote down my thoughts on the experience, noting any specific themes or ideas that struck me during the interview. I wrote notes to myself documenting any epiphanies or ideas during the study and I also kept a methodological journal noting changes in methods I made during the course of the study.

Memoing

Memoing is a vital step in developing themes. Memos are notes written by the researcher during the process of data collection and analysis *about* the process of data collection and analysis. Memos are “a running record of insights, hunches, hypotheses, discussions about the implications of codes, additional thoughts, and whatnot” (Strauss, 1987, p. 110). Memos “aid us in linking analytic interpretation with empirical reality. We bring raw data right into our memos so that we maintain those connections and examine them directly” (Charmaz, 2002, p. 516).

During the process of interviewing and as I sorted through data, I made notes to myself about insights, possible meanings, and areas for further inquiry and clarification. The process of memo writing created visible connections from my own assumptions to the data, recorded multiple links and patterns between and among relationships, contexts, and events, and created a paper trail of my early assumptions and thoughts to patterns and concepts that emerged later in the data. Memoing also contributed to a deeper analysis of data.

Literature

We had the experience but missed the
meaning. And approach to the meaning
restores the experience.
In a different form.

T. S. Eliot³

In trying to make sense of the analysis of our mountains of data, how do we really *know* what it means? And who is the knower—the researcher, the participants, or the reader? Kvale (1996) suggests that meaning interpretation “goes beyond a structuring of the manifest meanings of a text to deeper and more or less speculative interpretation of the text. Examples of meaning interpretation are found in the humanities, such as in a critic’s interpretations of a film or a play, and in psychoanalytical interpretations of patients’ dreams” (p. 193).

Denzin & Lincoln (2000) also say that data interpretation is complex and multidimensional. They ask, “How do we make sense of the interpretations and find meanings?” Basic beliefs of the naturalistic paradigm include realities that are constructed, holistic, and multiple (Lincoln & Guba, 2000). Perception itself is a form of interpretation.

Data Analysis

As I mentioned before, data included two interviews, original compositions including photographs, reflective essays, newsletter articles, secondary data (data not generated in this inquiry), field note journal, researcher’s methodological journal, researcher’s memos, and literature. Data from multiple sources generated by the

³ As quoted in Valerie Janesick (2000). The choreography of qualitative research design. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

respondent, the researcher, and data generated by both provided a rich way of “depicting the subjects’ lived world” (Kvale, 1996, p. 187).

Naturalistic data analysis involves content analysis: reading, interpreting, coding text, finding themes, data analysis, content analysis, and is holistic. Data analysis is an iterative process—one develops questions, gathers data, then refines the questions, then gathers more data. Such a process has a built-in mechanism for self-correction and validations, and allows for “insight, creativity, memory, intuition, and logic all at the same time” (Thorp, 2001, p. 48). Evaluating qualitative data “draws on both critical and creative thinking—both the science and the art of analysis” (Patton, 1990, p. 434). I used inductive data analysis to try to identify and understand the multiple realities of the students. Not only would inductive data analysis aid in understanding, it would also make the researcher more responsible and accountable.

When I thought about methods for my study, I intended to use multiple methods of analysis to reveal meanings, perspectives, attitudes, and themes that emerged from the data. Data analysis would be iterative and on-going, beginning

while the interviewing is still underway. After completing each interview and then again after finishing a larger group of interviews, you examine the data you have heard, pull out the concepts and themes that describe the world of the interviewees, and decide which areas should be examined in more detail. (Rubin & Rubin, 1995, p. 226)

I used, as Glaser & Strauss (1967) suggest, “constant comparative methods. Data analysis must begin with the very first data collection, in order to facilitate the emergent design, grounding of theory, and emergent structure of later data collection phases” (p. 242).

Data analysis began at the onset of the interviews. As each interview ended, I jotted down field notes and my initial thoughts—things that really struck me. At the close of each interview, I recapped with each participant what I heard, and what I thought he said, and, together, we began the first of several clarifications. Next, in field notes, I documented any patterns or themes I had noticed, non-verbal clues and patterns, speech patterns, tones of voice and how the interviewee changed pitch when he described or avoided talking about sensitive subjects. I also noticed his syntax, rhythm of speech and rate of speech.

As I wrote my field notes, I also thought about how I might have responded better to what the interviewee said. While trying not to lead the direction of the conversation, I did try to be responsive to what the interviewee was telling me, both verbally and non-verbally.

Later, I jotted down any thoughts or reflections or ideas I had to bring up in the second interview, as well as anything that surprised me. For example, one participant experienced frustration resulting from his sexual orientation. I had not expected to hear that. Being so immersed in personality, and emotional and cognitive responses, I had not considered sexual orientation as a source of stress for students.

Data analysis was subjective, not cut and dried. Geert (1995) says:

It is not a history one is faced with, nor biography, but a confusion of histories, a swarm of biographies. There is order in it all of some sort, but it is the order of a squall or a street market: nothing metrical. It is necessary, then to be satisfied with swirls, confluxions, and inconstant connections; cloud collecting, clouds dispersing... What we can construct, if we keep notes and survive, are hindsight accounts of the connectedness of things that seem to have happened: pieced together patternings, after the fact. (p. 2)

I began to analyze data by using a process of thematic coding to code data from the interviews, developing a system of coding the material to categorize themes. I began to use coding as part of the narrative analysis to generate concepts from my data and with my data, as Coffey & Atkinson (1996) suggest, but I soon discarded that method because it seemed to prematurely narrow the possibilities, to quiet the voices of the students, and restrict emerging patterns. The only coding I used was to identify the source for each piece of data (from interviews, secondary data, and original composition, for example). I ended up developing my own system of analysis that was more free-flowing yet with loose structure, similar to what I had used in my analysis of literature as an English major.

Content Analysis

I began analysis after each interview, jotted down field notes and wrote memos to myself about ideas that I might use or insights I had. Then, I gathered all the data from the two interviews, our conversations and original compositions, and did a content analysis for each individual, looking for themes, patterns, or a specific communication that struck me. Next, I grouped all the responses to each question in the first interview to get a sense of similarities and differences in responses. Then I looked at the three questions that I posed to each interviewee in the second interview, and looked for themes, patterns, or specific communications that were meaningful. Then, I looked at the rest of each specialized interview—the other questions and need for clarification that emerged from the first interview. I also scanned all the interviews to see if a particular word or phrase was used by more than one respondent, simply noting the event. I individually

analyzed each transcript, each piece of original data, each piece of secondary data, looking for themes and patterns in each piece of data for each participant.

In the interview transcripts, I sorted questions from Interview #1 and identical questions from Interview #2 by compiling responses to each question. The first question in Interview #1 prompted most of the stories for each respondent. Subsequent questions simply clarified or expanded upon what emerged from Question #1 and Question #10 in the first interview.

To gain a deeper understanding of the data as I looked over original compositions provided by each participant (poetry, written essays, selections of music and photographic compositions), I asked each participant to share with me what he meant to express through his composition. Each participant had different or unusual meanings for certain phrases or words. In addition to his interpretation, I included my own interpretation of the compositions. I taped one participant's commentary on his photographs, and our conversation lasted forty-five minutes as he described the events, experiences, and memories prompted by the process.

I looked for what was *not* said during the interviews and our conversations, and noticed lapses in conversation when participants withdrew from or avoided certain topics. In the chaos of lived experiences, disturbing events or experiences may lurk beneath the surface of consciousness, and recalling them may be painful.

I searched for metaphors in the analysis. I also did a member check and peer debriefing, described later. I used narrative analysis in analyzing and interpreting the materials collected through the interviews, original compositions, psychological sorter, and secondary data.

I used the Ad Hoc meaning generation method (Miles and Huberman, 1994, pp. 245-246) as described in Kvale (1996)

Noting patterns, themes, seeing plausibility and clustering help the analyst see 'what goes with what' Making metaphors . . . is a way to achieve more integration among diverse pieces of data. Counting is also a familiar way to what 'what's there.' (p. 131)

The Ad Hoc method is probably the most frequent form of interview analysis, says Kvale. It is the

use of different approaches and techniques for meaning generation . . . no standard method . . . used for analyzing the whole of the interview material. There is . . . a free interplay of techniques during the analysis . . . the researcher may read the interviews through and get an overall impression, then go back to specific passages, . . . make some quantifications like counting statements indicating different attitudes to a phenomenon, make deeper interpretations of specific statements, cast parts of the interview into a narrative, work out metaphors to capture the material, attempt a visualization of the findings in flow diagrams, and so on. Such tactics of meaning generation may, for interviews lacking an overall sense at first reading, bring out connections and structures significant to the research project. (p. 199)

Generating meaning through ad hoc methods "is an eclectic approach. A variety of commonsense approaches to the interview text, as well as sophisticated textual Quantitative methods, can be used to bring out the meanings of different parts of the material" (Kvale, 1996, p. 193).

Because an interview is a form of narration, it "is a continuation of the story told by the interviewee. A narrative analysis of what was said leads to a new story to be told, a story developing the themes of the original interview" (Kvale, 1996, p. 199). Narrative analysis may reveal the stories of the individual. Some students' voices are not heard amid the din of the majority. These are the voices

silenced by traditional banking style teaching, not voices of those who learn better through other ways.

I also compared and contrasted themes and concepts Kvale advocates: “Making contrasts/comparisons is a pervasive tactic that sharpens understanding. Differentiation sometimes is needed, too, as in partitioning variables” (p. 131).

Repetition of Key Words or Phrases

I looked for repetition of key words at the very end of all data analysis so as to keep an open mind about emerging findings. As I read and re-read data, I noticed some participants repeatedly used certain words as different parts of speech—in their interviews, in their reflective essays, and during our conversations.

Not only did I notice that a particular person would repeatedly use the same or similar word, I noticed emerging patterns *across* data. More than one participant used a particular word or phrase.

Repeated words or phrases may have a variety of meanings given the background and culture of each person. Some of the repeated words were “frustrations,” “should be,” “process,” “creativity,” “intuition,” “visual,” “enthusiastic,” “reflect,” “students,” “faculty,” “classes.” The patterns of repeated words confirmed and clarified the emphases and patterns I had already discovered.

Examples of Repeated Words and Phrases

The word root most repeated by all eight participants was the word “frustrations” (see Table 2 for examples). Participants began their first interviews by talking about their

“frustrations.” They also linked the word “frustration” with “stress.” Participants also talked about the impact of their frustrations: they were “burned out,” felt that “something needs to be done,” and realized “ I need a break from school.”

Another phrase repeatedly used was “should be.” The repetition principally indicated a) that participants perceived that all was not going well even if they did not know specifically what was wrong, b) that there were specific areas in the university they would like to change, and c) that participants were aware of alternative ways of being, learning, teaching, thinking, and feeling either from experiencing them elsewhere, from their own intuitive processes, or from their own observations.

I expected to hear the words “ students, classes, and faculty,” given the intentional design of the interview questions. These three words, along with the word “frustrations,” were used more often than the others on the list. Participants used the words “classes,” “faculty,” and “students” often to describe both positive and negative contexts.

	List of Words and Phrases Used Most Often By Participants
Frustration	“Frustrating,” “ease the frustration,” “very frustrated,” more frustrated,” “a little bit frustrating,” “very frustrating,” “having frustrations,” “I’m just frustrated,” “most frustrating,” “finding a way to ease the frustrations,” “being frustrated,” “I get frustrated,” “family was a lot of frustration [being away from],” “I’ll start with experiences and frustrations,” “current frustration [financial],” “I have strong frustrations,” “all the frustrations,” “Main topic that is frustrating to me,” “getting all frustrated,” “I got a lot of frustrations out.”
Depression, Depressed	“ I feel less depressed now that I’m talking about it,” “I write poetry about how I feel. If I’m depressed, I have a tendency to write,” “It’s a way to calm my nerves down.”
Different (indicating reality of school not as expected, awareness of alternative ways of teaching and learning, and need for variety)	“There’s a different way of doing things,” “seems it’s been this way since the beginning, the switching of different things right off the fly,” “hoping it would turn out different,” “interweave different subjects,” “different medium,” “Just kind of different,” “It’ll be different, that’s for sure,” “All my different hats and roles,” “It’s really a different way of thinking for me,” “Maybe I’ll try something different.”
Process	“process not product,” “process of learning,” “all about the learning process,” “It’s not what I learn, it’s the process of learning that I value most,” “not always the process,” “the whole process of it,”

	“what’s the process,” “the learning process,” “after the process,” “It’s always a process,” “learning the process of how it emerges.”
Enthusiastic	“He’s pretty enthusiastic,” “was enthusiastic about,” “That’s what made it good—his/her enthusiasm,” “I would like to see more enthusiasm in the teachers. “
Unique, unlike others	“I’ve always considered myself an individualist,” “I’ve had a feeling of not fitting in with what seemed to be the general student body,” “I knew I wouldn’t slip right in,” “It was reaffirming that I didn’t fit in with the mainstream college experience,” “I felt different than everybody else in class,” “I think that I think differently than most people,” “There is certainly a disconnect between me and other student,” “I consider myself to be <i>unique</i> person.”
Creativity	“outlets for creativity,” “creative ways,” “I like that they’re all associated with creativity,” “encourages us to be creative,” “encouraged to be creative.”
Reflect	“look inside themselves,” “think about themselves,” “I’ve just been through reflection.”

Table 2-List of Words and Phrases Used Most Often By Participants

Each respondent had the opportunity to review the transcript from the first interview and to make any changes he wished including additions, deletions, or corrections. No one chose to delete anything. I chose not to use computer software such as Nudist or other similar programs because I wanted a more contextual analysis of data. Although my own method was more subjective, meanings and descriptions were richer and clearer.

Metaphor and Schema Analysis

As a former student of English literature, specializing in comparative literature, looking for themes across texts, within specific texts, and in the same author’s works was commonplace and intuitive for me. I have practiced content analysis, metaphor and schema analysis, identifying metaphors in Hemingway’s works—advancing storm clouds as metaphor for impending war, for example, the turbulence and paradox in Poe’s Fall of the House of Usher, and interpreting syntactical reversals and common words with

uncommon meanings in Shakespeare's comedies and tragedies. I looked for emerging metaphors in each piece of data, across data, and in general.

Negotiated Outcomes

I negotiated the meanings and interpretations with respondents because it was their perceptions that I wished to hear, and I wanted to have them think about the meaning of what they said, and to verify that what I heard was what they meant. I also included my own interpretations of what they said in a larger context. As Strauss & Corbin (1990) suggest

construction of reality that the inquirer seeks to reconstruct; because inquiry outcomes depend upon the nature and quality of the interaction between the knower and the known, “”because the specific working hypotheses that might apply in a given context are best verified and confirmed by the people who inhabit that context; because respondents are in a better position to interpret the complex mutual interactions—shaping—that enter into what is observed; and because respondents can best understand and interpret the influence of local value patterns. (p. 41)

Validity

Validity in qualitative research asks these questions, “Does the explanation fit the description?” and “Is the explanation credible?” (Janesick, 2000, p. 393). By these questions we determine whether or not the research design and data are trustworthy and authentic. To help ensure validity, I used multiple data sources, multiple methods, multiple perspectives, triangulation, and reflexivity. Mine is a nonauthoritative, nonpositivist text.

Richardson (1994, 1997), using the metaphor of crystallization, proposes and describes a transgressive kind of validity that is crystalline.⁴ Such a form permits a social scientist to “conjure a different kind of social science . . . [which] means changing one’s relationship to one’s work, *how* one knows and tells about the sociological” (p. 166).

She says:

I propose that the central imaginary for ‘validity’ for postmodernist texts is not the triangle—a rigid, fixed, two-dimensional object. Rather the central imaginary is the crystal, which combines symmetry and substance with an infinite, variety of shapes, substances, transmutations, multidimensionalities, and angles of approach. Crystals grow, change, alter, but are not amorphous. Crystals are prisms that reflect externalities *and* refract within themselves, creating different colors, patterns, arrays, casting off in different directions. What we see depends upon our angle of repose. Not triangulation, crystallization. In postmodernist mixed-genre texts, we have moved from plane geometry to light theory, where light can be *both* waves *and* particles. Crystallization, without losing structure, deconstructs the traditional idea of ‘validity’ (we feel how there is not single truth, we see how texts validate themselves); and crystallization provides us with a deepened, complex, thoroughly partial understanding of the topic. Paradoxically, we know more and doubt what we know. (p. 92)

The metaphor of a crystal resonates with me because of the complexity, fluidity, and multiple realities it expresses and reveals, the concepts of *both/and* and *inside-out*, and its representation of the *unconscious/conscious*. Although I used triangulation in my study, the idea of crystallization as a means and metaphor of validity in that a crystal expresses the *both/and* of our lives and lived experiences, the dynamic being that is human, changing over time and over contexts.

⁴ As cited in Denzin & Lincoln, 2000, p. 181

Catalytic Validity: Eager to Talk

Catalytic validity is the “degree to which the research process re-orient, focuses, and energizes participants” (Lathy, 1986 p. 67). “Catalytic validity is evident in the ability of our research participants to better know and transform their circumstances” (Thorp, 2002, p. 57).

Participants were eager to talk about their lived experiences. During the interviews, they became animated and most continued to converse well beyond our expected one-hour time unit. Several even revealed that “this is the first time I’ve ever thought about this stuff,” or “I’ve really enjoyed talking about this.” Even though they were the ones spending their time with me and sharing their thoughts and experiences, three of the participants thanked me for listening to them.

During a public presentation, three participants shared personal experiences with others in public that they had revealed to me in private. They told me secrets they said they had not revealed to anyone before. The participants seemed happier after participating in my study, having shared their frustrations, their experiences, and their joys. Richardson (1998) says that catalytic, or kinetic, validity suggests our text should inspire something beyond itself.

Triangulation

Triangulation is “the use of multiple methods to study a single problem or program” (as cited in Patton, 1990, p. 187). I employed triangulation in my study because I see it *as a way to deepen understanding*, as a way to reveal multiple constructed realities, and as a way to reveal differences (Silverman, 1993; Dingwell, 1997; Lincoln &

Denzin, 2003; Seale, 2003).⁵ I employed triangulation in my data sources and used multiple methods of data collection. I had many sources of data: transcripts from two extended interviews with each participant; original compositions—some students shared a variety of compositions (essays, poetry, photographs, posters, reflections); results from a psychological tool, Researchers field notes and observations; and secondary data.

Member Check

After each interview, I summarized what I heard and checked with the interviewee to see if what I heard was what he meant. I followed the same process after analyzing other student-generated documents.

Use of Reflexivity-Researcher's Methodological Journal

I kept my own reflective and methodological journal. Becker (1997) suggests that people create continuity in their daily lives through continual interpretations of their experiences:

The ongoing interpretation of events and experiences enables people to make sense of their personal worlds; and a knowable world provides a framework for understanding major events as well as everyday experiences. A sense of continuity is captured in ordinary routines of daily life, the mundane and comforting sameness of repetitive activities, such as drinking a cup of coffee with the morning newspaper. These activities give structure and logic to people's lives.⁶

I documented major changes and shifts in my thinking. A key change in my methods occurred when I changed from purposive sampling to self-section sampling

⁵ As discussed by Clive Seale's Quality in Qualitative Research 169-184 in Y. S. Lincoln & N. Denzin (Eds.), *Turning points in Qualitative Research: Tying Knots in a handkerchief*. Walnut Creek: AltaMira Press.

⁶ From Unni Wikan, Managing the heart to brighten face and soul: Emotions in Balinese morality and health care. *American Ethnologist*, 16, 294-312, p. 296.

procedures. I originally planned to elicit names of possible participants from at least two sources: advisors of undergraduates and faculty. I would express to the advisors what I thought of as disaffected and ask them to provide me names of students who fitted that criteria. I planned to ask advisors of three departments or learning communities to provide their own definition of disaffection. I would also ask faculty which of their students they regarded as disaffected in their classes, given student's behavior in class, regularity of attendance, papers, and conversations with other students.

With a list of names in hand, I would then invite by e-mail those specific students to participate in my study, but when it came time to actually provide me names or to contact students themselves, the advisors felt that they would convey a message to students that the advisors thought they were different, had problems, or were odd. Because I did not want to compromise student-advisor confidentiality or put anyone in an uncomfortable position, I changed sampling strategies: I sent an e-mail to all male undergraduates in environmental studies programs. The ones who responded to my invitation to participate in my study would be the right ones, similar to the open space theory that whoever comes to the table are the ones who should be there. This method was risky because I assumed that males might be hesitant about sharing personal things, and might not want to share anything that might be construed as a problem.

To avoid having to reveal names of all students enrolled in specific areas, one advisor forwarded my e-mail to all her students. I sent my e-mail to two other departments and learning communities. I also sent e-mails to specific students.

Ideally, I thought that a group of five to ten participants would be enough to provide a range of concerns, but would not generate so much data that it would be

unwieldy for me to handle. Eight students responded to my invitation out of 300 male undergraduates in environmental studies programs.

Generalizability

Kvale (1996) suggests that:

Naturalistic generalization rests on personal experience: It develops for the person as a function of experiences; it derives from tacit knowledge of how things are and leads to expectations rather than formal predictions; it may become verbalized, thus passing from tacit knowledge to explicit propositional knowledge. (p. 232)

Results from my study will not be generalizable to a great extent. Instead, I hope the findings may provide insight into the experiences of male undergraduates in environmental studies and for other male undergraduates. Moreover, because of the dynamic and fluid context of the environment of the academy, and because of the chaos and complexity of the students' lives, the findings have specific meaning "*for that context at that time*" (Glaser & Strauss, 1967, p. 242) because of the specific interviews and the individual researcher. Findings are also holistic in that they emerge from the intersection of concepts and metaphor of chaos, complexity, and quantum learning theories and alternative learning environments.

Write-Up of Findings as Performance Ethnography

Ethnography emphasizes "the importance of understanding whole cultural systems" (Patton, 1990, p. 215). Seminal researcher on performance ethnography Denzin (1999) states that interpretive, or performance, ethnography views "culture as a complex process of improvisation" and "seeks to understand how people enact and construct meaning in their daily lives," acknowledging the holistic, dynamic nature of co-created

culture (p. 510). Moreover, interpretive ethnography “refuses abstractions and high theory. It is a way of being in the world that avoids jargon and huge chunks of data” (Denzin, p. 510). Ethnography is also empowering as it “removes the thrall of objectivity while sustaining voice” (Gergen & Gergen, 2000, p. 1029) and “asks how power is exercised in concrete human relationships” (Denzin, p. 510). The insider’s view “is at the heart of most ethnographic research” (Fetterman, 1989, p. 30).

The use of performance ethnography is becoming more widespread and accepted in recent years. Scholars are increasingly “moving toward *performance* as a mode of research or representation” for various reasons. For one, it is a valid alternative mode of expression to “the thrall of objectivity” that Gergen & Gergen describe (p. 1029).

Performance ethnography, they say,

is justified by the notion that if the distinction between fact and fiction is largely a matter of textual tradition, as the validity critiques suggest, then forms of scientific writing are not the only mode of expression that might be employed. Although visual aids such as film and photography have also been accepted as a means of ‘capturing reality,’ they have generally been viewed as auxiliary modes within written traditions. (p. 1029)

Another reason is that, through performance ethnography, “the investigator avoids the mystifying claims of truth and simultaneously expands the range of communication in which the work can stimulate dialogue” (Gergen & Gergen, 2000, p. 1029).

Not only is ethnographic performance a real-world form of expression that is empowering, provides a space for voice, and sparks dialogue. Lincoln (2000, e-mail correspondence) strongly recommends it “to evaluators for stakeholding audiences who have been participants in a research project.” Performance ethnography is a good fit with

postmodern formulations of knowledge as socially constructed and co-generated between researchers and participants; exhibits high validity and credibility within a community which has been the site of research; and

has formidable ‘transfer value’ since individuals outside the research site can experience vicariously the hopes, dreams, sorrows, frustrations, anxieties, beliefs, and solutions of sites both similar and dissimilar to their own.

(p. 1)

Performance ethnography is a means of expressing deep emotions and perceived realities of a society, culture, group, or individual through multiple genres. Graphic arts, video, dance, magic, multimedia, and drama are all forms of artistic expression investigators might include as their research or presentation of their research.

Parables, plays, and poetry are types of genres that metaphorically, explicitly, or symbolically express multiple and complex relationships, perceptions, events, and contexts. Qualitative researchers Richardson (1996, 2002, 2004) and Thorp (2000, 2003) use performance ethnography to alter “people’s ways of hearing,” to break boundaries (Richardson, 2002, p. 880), and to “work along the nerve of our most intimate sensitivity” (Dillard, cited in Thorp, 2003, p. 312).

Richardson (2002) suggests that the use of poetic representation “may be preferable to representation in prose” (p. 877); that writing “always involves what Roland Barthes calls ‘the ownership of the means of enunciation’” (p. 878). How we choose to write reveals our paradigms, our personalities, our thought processes, and our most intimate selves. Writing performance ethnography is also “a way to transgress convention . . . a feminist stance against the hegemony of the written word. As women we want to engage the entire body, emotions included—ours is not simply a science of the head” (Thorp, e-mail correspondence, August 10, 2004).

Poetic representation (Richardson, 2002) “offers social researchers an opportunity to write about, or with, people in ways that honor their speech styles, words, rhythms, and

syntax” (p. 880). For example, in her “long narrative poem,” her “sociology poem” about an unwed mother (p. 880), Richardson shaped a five-page narrative poem from a 36-page transcription of a five-hour interview with an unwed mother. Richardson incorporated her interviewee’s “words, tone, and diction” with “poetic prose devices . . . repetition, off-rhyme, sounds, meter, and pauses to convey her narrative” (p. 883). The result was a story open to multiple interpretations depending on one’s perspective, instead of *the* story, bounded by the researcher’s perspectives and use of language.

Drama is text in action: “In the context of ethnodrama, drama is conceived as a text whose final destination is action” (Weisz, 2002, p. 210). Ethnographic drama, like poetic representation, says Richardson (2004) is

a way of shaping an experience without losing the experience; it can blend realist, fictional, and poetic techniques; it can reconstruct the ‘sense’ of an event from multiple ‘as-lived’ perspectives; and it can give voice to what is unspoken, but present, such as ‘cancer,’ as portrayed in Paget’s (1990) ethnographic drama, or abortion, as in Ellis and Bochner’s (1992) drama. When the material to be displayed is intractable, unruly, multisided, and emotionally laden, drama is more likely to recapture the experience than is standard writing.” (pp. 482-483)

For example, Thorp (2003) uses performance ethnography to re-capture and express the lived experiences and voices of elementary school children, teachers, parents, “dissertation advisor,” “poet muse,” and her own lived experiences and voice during her doctoral fieldwork in agricultural education at a rural school. Performance ethnography also conveys some of the emotions and processes Thorp encounters as she weaves her way through her own personal grief and into the hearts of the school children immersed in her garden project: “Woven through is my own voice grieving the concurrent loss of my father—the person who taught me the joys of gardening” (p. 312). Performance ethnography makes visible to the reader and audience the relationships, memories,

dissonances, meanings, and images of those involved in the project, including the “dozens of sweaty little hands” of children who called Thorp “The Garden Lady” (pp. 312-323).

Additional researchers and practitioners of performance ethnography cited by Gergen & Gergen (2000) include Carlson (1996); Case, Brett, and Foster (1995); Blumenfeld-Jones (1995); Case (1997); Clark (1996); Denzin (1997); Donmoyer & Yennie-Donmoyer (1995); Jipson & Paley (1997); Mienczakowski (1996); Morris (1995); and Van Maanen (1995).

The write-up of the findings in this study appears in the form of ethnographic drama— a play. A play dynamically articulates personal interactions and relationships, and it provides an immediate representation of the perceptions, memories, hopes, and strategies of the participants in this study. In the play, I use direct quotations from the data to capture the insider’s view of reality (emic perspective) as opposed to the outsider’s view of reality (etic perspective). I also include in the dramatic exchanges of the characters’ allusions to theories that illuminate the lived experiences, thoughts and language of the participants. Those theories include chaos and complexity, relativity, and theories from alternative learning environments.

Limitations To The Study

This study is limited in several ways:

- Participants were male undergraduates in environmental studies programs, rather than male undergraduates from all fields.

- The location, type, and size of the university set parameters. Male undergraduates might have very different experiences in a smaller, liberal arts university away from the Midwest. Furthermore, a specific social and university culture acted as a bias to my study.
- Male undergraduates may react to the current university settings and situations in a very different way than female undergraduates.
- This study is based on only those who self-selected into it—unheard and silent voices might have created a larger range of criteria.
- Most of the participants were not familiar with concepts from chaos, complexity, and quantum mechanics, and they responded to questions in the first interview based on the definitions and descriptions offered them, potentially framing their answers.

Biases

Lady, I do not make up things. That is lies.
Lies are not true. But the truth could be
made up if you know how. And that's the truth.

Lily Tomlin, Saturday Night Live

Lily Tomlin's humorous commentary on Truth expresses a truth in inquiry: All research is value-laden. Values include basic beliefs, theories or hypotheses, perspectives, social and cultural norms, and personal or individual norms (Lincoln & Guba, 1985). As Hesse (1980)⁷ believes, "The attempt to produce a value-neutral social science is increasingly being abandoned as at best unrealizable, and at worst self-deceptive." I am aware that I bring my own biases and preferred ways of seeing to this inquiry.

⁷ As quoted in Y. S. Lincoln & E. Guba (1985) *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications, p. 160.

One inherently sees what one wants to see whether or not it emerges or is counted and planned, and one can always substantiate the data. Qualitative and quantitative methods may be biased depending on one's worldviews and perceptions. When a green frog pulls himself out of swampy water, one may exclaim: "It's a green frog pulling himself out of the water," "I'm imagining that a green frog is pulling himself out of the water," "There's a parallel dimension and it's not really happening in this time and space," "There's dinner," or "Everything is connected and we all are one. I'm pulling myself out of the water." There are multiple perspectives, multiple realities, and probably more dimensions than we currently comprehend. One person's truth is that person's truth and is valid and valuable for that reason alone.

Not only are there individual biases to consider, there are cultural biases inherent in the interaction between research and participants. Bruner (1996) suggests that any interaction or meeting between a researcher and participant is a cultural encounter, and both parties are influenced by their individual cultural lens. In my study of engagement, the culture of the university was also an influencing factor (Heath, 1999).

Peer Debriefers

A peer debriefer is someone external to a study, yet familiar with the researcher or the phenomenon studied. Together with the researcher, a peer debriefer examines the data, reviews the research processes, provides constructive feedback to the researcher, or simply listens to the researcher as he or she shares her concerns about the study (Cresswell & Miller, 2000). A peer debriefer may also question research methods, themes, meanings, or findings while meeting with the researcher.

I met with two peer debriefers during this study; people not involved with the study but with whom I had “a no-holds-barred conversation at periodic intervals, to explore next methodological steps,” and with whom I exchanged ideas about emerging themes (Lincoln & Guba, 1985). I met once with each person to share my findings and to receive feedback. One peer debriefer is a faculty member who teaches and has experience with undergraduate students, their attitudes, perceptions and behaviors. The second peer debriefer is an experienced advisor of undergraduates, with inside knowledge of what students experience at the university. Each commented on the themes, meanings, and findings I shared with them.

CHAPTER FOUR: FINDINGS:

LOOKING INTO CHAOS: A PLAY IN THREE SCENES

Findings from this research are written in two different ways. As I began to write findings in the traditional sense, plain text, the process and results seemed flat and linear, devoid of the interaction, spontaneity, and humor that had emerged during the interviews; it did not reflect the holistic, dynamic nature of co-created culture. Dr. Laurie Thorp, a committee member who worked with me on methodology, suggested that I use performance ethnography to depict the perceptions, attitudes, and strategies of the participants in this research. The weight and sense of drudgery I experienced from the process of simply writing text in a linear fashion immediately lifted. An unexpected discovery of this research process was that the write up of the findings *must* fit the data gathering process, and the personality and ways of thinking of the researcher.

I chose to write a memory play to demonstrate the interactions and relationships between and among people (in addition to reasons cited in Chapter 3, Methodology). A memory play creates space to communicate the perceived experiences of the students, for the linearity of time and events and the contextual meanings of that time, and the non-linearity of reflection and perceptions, synthesis of negotiated meanings, relationships, and cognition that are the rich results of human experience.

The play is minimally staged for this dissertation, but will be fleshed out upon staging. Direct quotes from many interviewees become the words the actors speak. The issues, concerns, and experiences the characters describe are some of the issues, concerns, and experiences the interviewees described. Concluding dialog includes

researcher interpretations and recommendations. A complete write-up of the findings is included, listed as Addendum Chapter Four: Findings and Implications.

Looking Into Chaos: A Play in Three Scenes

By Carole F. Robinson

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Prologue

[Enter from Passageway #1 and cross stage towards Passageway #2. Willy and Canshe, a son and his mother. Willy is 6'2," skinny, with blond curly hair, wearing a T-shirt from the latest Phish concert, and a pair of worn jeans. He's just graduated from high school and has applied to the local university. His mother, Canshe, an associate professor at the University of Wharfton, is middle-aged, divorced, and pudgy, with a defensive attitude.]

[Willy and Canshe cross toward Passageway#2. Willy glares up.]

WILLY. Look, Mom. Just look at those clouds. I'll bet we'll get soaked when we get out of the play. Did you bring your umbrella?

CANSHE. [Walking beside him and following his gaze.] They certainly *are* strange looking. And, yes, I did. Bring the umbrella.

WILLY. They're huge! Look at all that turbulence! They're just swirling, rolling, bumping into each other...

CANSHE. Rolling and bumping?

WILLY. Reforming, dissipating, and re-forming. I can see shapes and patterns! They just bump into each other and then they transform into new random shapes and patterns. [Pause.] They're disconnected yet together in the periphery of the turbulence. [Pause] Look, there's a vortex! Awesome! That's supposed to attract even more moisture and create even more turbulence! [Sounds of distant thunder.]

CANSHE. [Looks at him nonplussed.] You must be reading that Gleick stuff again. That is so weird. Why can't you be like other everybody else? Most people would look at those clouds and see animals or faces. But no, you see . . ."turbulence" and "patterns," and more of that chaos stuff—just like your father.

WILLY. Well, of course! Chaos is part of everything! We're all part of dynamic systems. Chaos and complexity are metaphors for human dynamic systems, you know.

CANSHE. [Staring at Willy.] You're beginning to scare me now. You are *so* not like your brother. He's *normal*. Why can't you be more like him?

WILLY. [Disgustedly.]. Normal. Yeah, whatever. Come on. Let's hurry it up. I want to get there as soon as I can. I've been waiting a thousand years to see "Privileged White Men."

CANSHE. [Ignoring his tone, looks off toward Passageway #3.] What's going on over there?

WILLY. [Looks across stage towards Passageway #3. Young Ticket Agent enters from Passageway #4 carrying a small chair and table. Crosses stages to Passageway #3 and sits down. Willy watches her.] I can see the girl in the ticket booth. Mom! Look at all those women going through the door! I hope we can get a seat!

CANSHE. I see that most of them are holding something pinkish. [Brief pause.] Ah, yes. Why wouldn't they be in front of us? They already have *their* tickets!

WILLY. [Voice drops.] Oh. [Thinks out loud to himself as they walk towards the ticket booth.] My stomach really hurts. My head aches. I have *got* to get in. I *have* to see this play. What if there aren't any seats left? What if we're forced to sit in the balcony? What if we're *turned away*? Most of my friends were turned away.

[Canshe and Willy cross stage diagonally from Passageway #2 to Passageway #4. The Ticket Agent looks through the glass at them smugly.]

TICKET AGENT. Yes?

WILLY. [Looks at her and stammers.] We'd, we'd like two front row seats, please.

TICKET AGENT. [Smiling.] Front row seats? You must be joking. Those seats sold out twenty-four hours after sales opened.

WILLY. [Really anxious now.] Is there anything left for us? Please. Please! I'll take anything!

TICKET AGENT. [Slowly scanning the pile of unclaimed or returned tickets.] No, we've just sold out. Too bad.

WILLY. Would you check again, please?

TICKET AGENT. [Looks once again through the unclaimed tickets.] No, wait. You're in luck. One person returned her tickets. She chose to go to another theatre tonight. That will be eighty dollars.

CANSHE. What?! Those tickets should be twenty dollars each.

TICKET AGENT. Last minute tickets cost more. Do you want those seats or not? There are plenty of other people who will take them at that price. [She plunks down the tickets in front of them.]

WILLY. Yes. Yes, we'll take them at any cost.

CANSHE. Who gives *you* the authority to charge more for last-minute tickets?

TICKET AGENT. My hands are tied. I don't make the rules, ma'am. I only follow them.

[Canshe glares at Willy, but hands the Ticket Agent eighty dollars. She grabs the tickets and they hurry to find their seats, crossing to Stage Left. Ticket Agent exits through Passageway #3. Elderly Man and Elderly Wife sit in row just behind them. Just as Canshe and Willy slip into their seats the lights dim and the doors close behind them. They sit in the front row next to Administrator Al and Administrator Doit. Elderly Man and Elderly Wife sit in row behind them, next to Woman #1 and Man #1.]

Blackout

Scene I

BILL. [Sitting on an easy chair in his apartment, center stage.] Well, here it is—last semester of school. Finally. How did I manage to make it this far? [He turns his head toward the disturbance as Willy and Canshe are seated.]

[Willy slouches down in his seat.]

BILL. It's been an odd journey. I've switched majors twice, left school for a semester to get myself together, and adapted to everything.

[Willy sniffs.]

BILL. Now, here I . . . [Bill looks around at audience, then over at Willy.] am, ready . . . [Willy sniffs again.] to graduate.

[Willy slouches further down in his seat, takes out a handkerchief and blows his nose.]

BILL. Ah, yes. I remember how excited I was when I first started school. What a time! [Looks over at Willy.] Hey! You in the front row there. This play has already started.

[Willy slouches further down in his seat.]

BILL. [Looks at Willy.] Hey!

[Willy remains silent.]

BILL. Hey, you. What's up with the noise? The play has barely begun. It can't be that bad. Most people cry *after* I say my lines.

WILLY. [Wiping his eyes.] Who me?

BILL. Yes, you. There's no one else down there with tears rolling down his face. Come on up here.

WILLY. What?

BILL. Come here. Let's talk. Better yet, you can be *in* this play.

WILLY. In the play? Really? [Scrambles to his feet.]

CANSHE. [Alarmed and angry, grabs Willy's arm trying to keep Willy from leaving his seat.] What are you thinking? You can't go up there!

WILLY. [Pulls away and moves toward Bill.] Just watch me.

CANSHE. You're not *supposed* to go up there! That's just for the actors! What do you know about acting? You'll ruin the play!

[Stage lights immediately brighten; one directly illuminates Bill and Willy.]

STAGE MANAGER. [Offstage.] No novices on the set!

[Willy looks around.]

STAGE MANAGER. [Offstage.] No novices on the set! You don't know the lines. Please leave the stage immediately.

[Willy stops.]

STAGE MANAGER. [Offstage.] Bill, you've been here long enough to know what you're supposed to say, so just say it. No ad libbing. Just. . .say. . . your lines. Let's get this thing over with.

WILLY. [Glances around for Stage Manager, then looks at audience pleadingly.] But I *do* know something about acting. Besides, I need to talk to somebody.

[Silence.]

[Woman #1 and Man #1 whisper to each other in seats behind Canshe and Willy.]

WOMAN #1. Give him a chance. Let him up there! He might have something to say!

MAN #1. He can improvise. That's no problem.

WOMAN #1. Let's see what emerges!

MAN #1. There's more to a play than just parroting lines anyway! If he wants to talk, he should talk!

ELDERLY HUSBAND. [Behind Canshe.] Gasp!

STAGE MANAGER. [Offstage, addresses the audience.] We've spent a lot of money on this play. I cannot allow one person to ruin it.

[Silence.]

STAGE MANAGER. [Sighs.] All right, but the responsibility for the outcome is all his. It's against *my* better judgment.

WILLY. [Looks at Canshe. Smiles.] This is something I *really* want to do.

CANSHE. Ok. Go ahead. If that's what you want to do, do it.

STAGE MANAGER. [Loud sigh.] All right. Get on with it.

ELDERLY HUSBAND. [Whispers loudly to Elderly Wife.] This is ridiculous! No one does it this way. I'm pulling our funding!

ELDERLY WIFE. [Sitting next to Elderly Husband.] No, we are not! This is just getting interesting.

[Lights dim once again and the action continues.]

BILL. Come on over here! Have a seat. [Motions toward another easy chair across from him.]

[Willy walks over to Bill and sits down in chair.]

BILL. I'm Bill. And you are . . . ?

WILLY. I'm Willy.

BILL. So what's up? Is that a habit?

WILLY. [Wiping his eyes.] No, it's not a habit. Sorry. I know people around here don't like it when guys cry.

BILL. So? Then, why the tears?

WILLY. I was just thinking about college.

BILL. What about college?

WILLY. I just sent in my application, but I don't know if I'll be accepted or not. A lot of my friends have already been turned away. And I really want to go.

BILL. So what if you don't get in? What's so hot about college, anyway? I was just sitting here thinking about my big college experience, now that I'm about to graduate. The experience wasn't so hot.

WILLY. You're graduating? You're so lucky! It would be great!

BILL. Great? What's going to be so great about it?

WILLY. Well, you know. Lots of things.

BILL. Name one.

WILLY. Well, for one thing, I'll be able to have a real conversation with a professor.

BILL. [Laughs.]

WILLY. And I can do creative things, use what I know, that kind of thing.

BILL. What planet are you from? You'll be treated as if you know nothing!

[Canshe stands.] Willy, are you going to let him talk to you that way? [To Bill.] You said you wanted to talk to him, but you're just being obnoxious! [Sits down.]

WILLY. Mom.

BILL. [To Canshe.] Not really. Just being realistic. [Turns to Willy.] Sorry, Dude, but you just remind me of I how naïve I was when I first came here.

WILLY. Naïve? I'm not naïve! I just know what I want.

BILL. Yes, well, I knew what I wanted when I came here. What I expected was a lot different than what I found.

WILLY. What do you mean?

BILL. Well, I had this rosy picture of college when I first started of how things would be, but that soon changed. Once I started to get a sense of what kind of options I had, I stuck with it, hoping it would turn out differently.

WILLY. How did you get this far?

BILL. I adapted, that's how.

WILLY. You said you were about to graduate. Some things must have worked.

BILL. Let's just say I managed to get through.

WILLY. What happened?

BILL. When I first started taking classes, I had this idealized image of what it would be like—people caring about intellectual pursuits and each other. Caring about community. Ha!

WILLY. Didn't other people feel the same way?

BILL. Hardly. There was nothing resembling *community* in the student body at all. There were a couple of learning environments, though that seemed to encourage community. After the first week, though, I really considered dropping out.

WILLY. Why? It couldn't have been *that* bad.

BILL. Maybe not for the majority of students, but it was for me!

WILLY. Why? What's so different about you?

BILL. I don't know. I just feel different than most of the students I meet. I think differently. I always have.

WILLY. Isn't that usual?

BILL. No, I don't think so. I'm unique, I guess.

WILLY. Come to think about it, I've always felt different from most of my friends in high school. That will change, though, when I get to the university. That's one of the reasons I want to go—to finally find a place where I really fit it.

BILL. [Ignores his comment.] Anyway, it seemed like nobody really cared about learning anything. They just cared about getting the grade.

WILLY. Well, the grade *does* get you the degree, doesn't it?

BILL. Yeah, and that's the problem. I felt like a lot of teachers, instead of *encouraging* students to *care* about what they're learning, and to actually *think* for themselves, decided it was easier to pander to the get-the-grade mentality. It was "Memorize this, memorize that, do this, get an A."

WILLY. My mom's a prof. She cares. At least I think she does.

BILL. Don't kid yourself. Profs don't care about students, in general. They don't give students enough credit, and they *certainly* don't want to find out if you know anything. They think students *don't* know anything. But maybe we do in some cases!

WILLY. Did you even make an effort to fit in?

BILL. Yes, I've made a huge effort. I adapted to everyone else's demands. I stuck it out. Now I'm going to graduate.

WILLY. Your parents must be glad. I know my mother would be jumping for joy.

BILL. They're pretty supportive. What about yours?

WILLY. My mom is supportive in her own way, I guess. She's always trying to make me into something she thinks is right for me. That's the professor in her, I guess. I still can hardly wait to get to school, though. They'll treat me like I know something.

BILL. I guess you didn't hear what I just said.

WILLY. I can just image the conversations I'll have with my professors. You know, kind of a one-on-one thing. It'll be awesome.

BILL. Look. The only one-on-one conversation I ever had with a prof when I first came here was when he was telling me I was flunking his class. And then he said it in front of another student.

WILLY. He did?

BILL. Yeah. It was humiliating! What a jerk! He ought to be kicked out. But then, he's got tenure. You can never get those people out. They're like crocodiles—they haven't changed in a million years! I almost decided to drop out then.

[Willy laughs.]

BILL. It's not funny. It's true.

WILLY. What did your parents say about that?

BILL. I didn't even tell them. I didn't talk to *anyone* about it.

WILLY. I don't think I'd talk about that either. I'd just try to handle it myself. [Pause.] But then, I'm from a dysfunctional family.

[Door slams. Sounds of footsteps approaching Bill and Willy.]

BILL. What a surprise.

WILLY. I guess you can probably tell.

[Willy glances at his mother, who turns her head to avoid his gaze.]

BILL. Yes, but who's not? From a dysfunctional family. Everybody's family has it's own problems. But, my parents have been really supportive. That's one of the reasons I have made it this far.

[John, a business major, enters from Passageway #2 and walks over to Bill and Willy, and plops down on the floor. He holds a can of Gatorade in his hand. ESTJ type.]

JOHN. What's up?

BILL. Hey. John, this is Willy. Willy, John.

JOHN. Hi, Willy. How's it going?

WILLY. Hey, John.

JOHN. [To Willy.] What did I just hear? You want a relationship with a prof? That could get you expelled! [Laughs.]

WILLY. [Smiles.] Not that kind of a relationship. I mean a mentor-type relationship—like, someone I can learn from, and who can learn from me.

JOHN. Yeah, they'll sure tell you all you need to know. Right, Bill?

BILL. Right. [To John.] I want to ask you something. You're graduating this semester, don't you?

JOHN. Yes, why? [Takes a drink.]

BILL. How did you manage to get through school in just four years? Did you comp some classes?

JOHN. Are you kidding? Why would anyone need more than four years to get through school? Dude, it's not as if you're going to learn anything that you can really use when you get a job.

WILLY. The purpose of college is to learn things, isn't it? It's the process that's important.

JOHN. Who cares about process? Getting through is what's important. You just go to class, find out what the prof wants, and then you do it. Find out what's going to be on the test, and then you learn it. Then you forget about it.

WILLY. You just study for the tests? That doesn't seem right.

JOHN. What's the big deal? You study whatever's going to be on the test, take the test, get the grade, and get out of class. Easy. You're just there for the degree, anyway. Employers will teach you what you need to know on the job.

WILLY. Well, what about caring about what you learn? Trying to connect it to what you already know? What about finding something that's meaningful to you?

JOHN. You do "meaningful" on your own time. Not in college.

BILL. Yeah, I agree with Willy. Finding meaning in what you learn is really important. That's my big insight.

JOHN. Dude. You just do what you have to do go get the grade, and then you graduate. If you can't hack it, why come to college in the first place? Rule number one. Don't be a whiner!

WILLY. That's cold. Challenging issues and asking questions is not whining!

JOHN. [Pauses.] Seems so to me. Just accept things as they are and you'll get along much better here. [Looks around. Picks up sweatshirt and gloves on chair.] Well, I'm going to the game. See ya. [Walks off stage through Passageway #2.]

[Bill & Willy look at each other, silent.]

Blackout

Scene II

[Alex, Trek, Edwin, Bob, and Emeril sit around a round table at an outside bar, drinking beer, eating peanuts, and talking. A bartender walks back and forth behind the small bar, wipes bar, and arranges bottles. Four round tables with eight chairs each. Willy and Bill sit at nearby table. Woman #1 and Man #2 from audience sit table at far end by wall.]

[Trek and Edwin are eating plates of cheese fries. Emeril is drinking a beer.]

EMERIL. So, what about this dreaded class you're taking?

TREK. It is so *bad*. It's a really big class. I don't like it much.

EMERIL. Big classes. Now there's a real tribute to the university. [Takes sip of beer.]

TREK. I like smaller classes *so much* better than big classes. The professors in those large lecture classes are so mechanical! It's just as if they have lines they have to read.

EDWIN. Dude, the *worst* professor I *ever* had who crossed my path was during my third year. And, unfortunately, we crossed paths every Monday, Wednesday, and Friday!

[All laugh.]

EDWIN. I kept asking myself, "Why was he was so *bad* at teaching, and so damned *good* at glazing over the eyes of nearly 250 students three times a week?"

TREK. What made him so bad?

EDWIN. Simple. Lack of passion. Pizzaz. Zip. Drive. Oomph. Personality. Whatever you call it, he must've been absent on the day it was dealt out.

BOB. What did he do?

EDWIN. In a voice like a soggy saltine cracker [mimicking the professor], he would read word for word the power point slides he so carefully constructed to teach us. Geez, I can't even remember what the subject was!

[Trek and Bob laugh. Alex nods his head affirmatively.]

EDWIN. Mono-tone-teaching-is-the-worst-thing-about-learning-in-a-lecture-setting. I'm not sure if there is anything I can do to adapt to that style of teaching.

WILLY. [To Bill.] I think they're talking about classes. I'm going to go over to their table and find out what classes are really like.

BILL. That's not in the script. You'll only get *their* perceptions of what classes are like.

WILLY. Maybe so, but their perceptions are their reality.

BILL. All right. To hell with it, *and* my lines. I'm sick of saying my lines anyway. Let's just improvise! Come on.

[Bill and Willy get up and walk over to the group. All stop talking for a minute.]

ALEX. Hey, Bill? What's happening?

BILL. Hey, Alex. Willy here heard you talking about classes and wanted to know more. This is Willy.

ALEX. [To Willy.] I'm Alex.

WILLY. Hi.

BOB. Ok, Bill and Willy. Pull up a table and have a beer. [Bob hands them each a glass.] There's the pitcher. The next one's on you. [Laughs.] Thanks for coming over. [Willy and Bill slide their table next to the other.]

BILL. Ok.

BOB. [To Edwin.] I had the same experience. It was a huge class with lots of students. The teacher was down in front doing this lecture-power point thing.

[Lights up over Passageway #2. Professor Clyde enters from Passageway#2, rolls his podium over beside Bob, Alex, Trek, Edwin, Bill, Willy. Eliot and John follow behind Professor Clyde and walk over to others. Bob, Edwin, Alex, Bill, and Trek position their chairs in three rows and become the students in the class, without saying a word. Edwin doodles on a menu. Alex holds his face in his hands, head bobs occasionally as he nods off to sleep, Trek has his menu open, but does not look at it. Eliot gazes left, daydreaming. John hurriedly takes notes as Professor Clyde speaks, absorbed in the lecture.]

PROFESSOR CLYDE. [In front of class.] Today I'm talking about the hierarchy of wisdom. For years now, it's been known that the more education one gets, the more one knows. As you go through school, you'll accumulate pertinent facts that you'll use the rest of your lives. Consider yourselves sponges this semester, absorbing all the knowledge I give you . . . [Voice fades. Bob, Alex, Trek, Edwin, Bill, Willy, Eliot, and John move chairs back around circular tables. Professor Clyde moves podium a few feet away facing stage left, exits through Passageway #2.]

BOB. [Looks at Willy.] See what I mean?

WILLY. Yes, that's grim all right.

BOB. This may come as a surprise but I didn't do very well. [All laugh.] It was a literal disconnect—I rarely even went to class. You could get the lecture off the computer; it was boring, so why bother even going to class?

ALEX. Right. Most of my classes are like that—so dull. I go to one class just to sleep!

[Willy, Bob, Bill laugh.]

ALEX. One of my profs puts all his notes on Blackboard, so I really don't have to even show up. He wouldn't know if I was there or not anyway. He wouldn't care, either! He just tells us that it's *our* money and if we choose not to come to class, that's up to us.

BOB. That's pretty demeaning. It's like saying, "You're not important enough to care about," or "You don't have anything to contribute to the class anyway."

ALEX. Exactly. I feel like a lot of teachers, instead of encouraging students to care and to think for themselves, just throw information at the students, give multiple choice tests because they are easy to score, and that is it. It's, "Memorize this, memorize that, do this, get an A"!

JOHN. I'm going inside to get a burger. Anybody else want anything? [Without waiting for any responses exits through Passageway #1.]

TREK. So true.

BILL. [To Willy.] Sound familiar?

WILLY. Yes.

BOB. I want to see some people in academia who still care about students—the ones who are not caught up in just their own research—people who are selfless, generous with their time and energy.

ELIOT. You mean the invisibles on campus?

WILLY. Who are the "invisibles"? And who are you?

ELIOT. I'm Eliot. Invisibles are the people on campus who really care about their students. Invisibles go day-to-day just doing their own thing. Invisibles go unnoticed and unappreciated, probably.

EDWIN. Yes. I'm really thankful for those people. They're what's kept me going. If they weren't here, who knows what? [Pause.] [Quietly.] There would be big empty spots. And a lot of empty feelings.

[Pause.]

TREK. So where do you find people like that? This is a huge campus or, at least it feels that way to me.

WILLY. How do you get hooked up with them?

[All are silent.]

[Brief pause.]

BOB. Well, although they *are* rare, they are still around.

TREK. Where?

BOB. You just run into them here and there from time to time.

TREK. How *do* you hook up with them? Is it a secret?

BOB. I met a few in a couple of alternative learning communities here on campus. You just basically have to take the initiative to get involved. Poke around a little—ask questions.

ALEX. It sounds like we all feel the same way as you, Ed. I thought I was unique in that sense.

TREK. So did I. [Eats some peanuts.] Most classes are the killer. [Throws shells on floor.]

ALEX. I agree.

TREK. What do you really want in your classes, Bob?

BOB. Well, for one thing, I want a place where I can be creative. There doesn't seem to be much space to do that.

ALEX. That's for sure! [Takes a sip of beer.]

BOB. Everything is so structured, so linear. That's just not me.

TREK. Structure isn't my thing, either. I prefer change. I don't like routine.

ALEX. Me, either.

BOB. In class, there's just no space for creativity. Not that creativity would be rewarded anyway. Most of my teachers tried to squelch that in me early on. And most of the teachers I've had lately aren't too creative, either.

WILLY. I wonder why.

[Alex, Edwin, and Trek rise and exit through Passageway #1 without a word. They return as three little boys, running in through Passageway #2. Alex becomes Petey, Edwin becomes Pauley, and Trek becomes Frankie. Petey, Pauley, and Frankie come running in from Passageway #2. They run by the table where Bill, Willy, and Eliot still sit. Petey kicks a soccer ball all the way in. Pauley carries a book. Lights dim on everyone but the three little boys. They stop to play in a clear space in the bar area. The light is bright. All play near each other, together, but each plays in his own way. Petey laughs and runs as he kicks a soccer ball. Pauley walks over to stage front, sits down at edge of stage, and begins reading his book, its title, *The American Iconoclast*, in big red letters. Frankie walks around talking to an unseen friend offstage.]

FRANKIE. Hey, Ritchie. Jack's got a boat just like that one. You should race him with it. [Walks over to where Pauley is sitting.] What'cha reading, Pauley?

PAULEY. H. L. Menken. Good stuff. [Smiles.]

[Frankie just looks at him.]

PAULEY. [Looking over his book at Petey.] Petey, tell me, what are you going to be when you get big?

PETEY. [Smiling, stops kicking the ball for a minute.] I'm gonna be a teacher. And we're gonna have fun! [Starts kicking the ball around again.]

FRANKIE. [To Pauley.] What about you, Pauley? What do you want to be?

PAULEY. Well, when I grow up, I'm gonna teach school. And they're going to think about things, whether they know it or not!

PAULEY. [To Frankie.] Frankie.

FRANKIE. What?

PAULEY. Frankie. What are you gonna be?

FRANKIE. [Pauses, thinking.] Well, I'm gonna be in school, too, and I'm gonna *talk* with kids and see what *they* want learn!

DEEP LOUD VOICE. [Offstage, reverberates from all sides. Petey, Pauley, and Frankie all look around, afraid.]

DEEP LOUD VOICE. [Offstage.] Fun? Think? Ask what *they* [sneeringly] want to learn? HA! Ha, ha, ha. [Continues to laugh.]

[The smiles on Petey, Pauley, and Frankie's faces disappear and their heads drop. They gather their things in silence, and slowly walk offstage through Passageway #2. The lights dim.]

[Lights up on Bill, Willy, and Eliot. Alex, Edwin, and Trek enter from Passageway #1 and walk over to Bill, Willy, and Eliot. No words of explanation. They sit down.]

ALEX. Anyway, I'm just ready to be done with school.

TREK. So am I. What gets me is that universities are supposed to be a space where anything can be discussed.

ELIOT. Anything *can* be discussed, so long as it doesn't go against mainstream thought.

ALEX. That's for sure!

BOB. Just try doing that, though. It seems best to keep your creative thoughts to yourself, or you'll get accused of disrupting the class.

TREK. Well, I mean, I think it's important to have profs who can teach these things, you know, like how to be creative, and to actually *do* creative things. But if a certain prof has a different opinion or style than the mainstream, they can get kicked out.

BOB. I doubt that.

TREK. Well, it does change things, when you have to keep your mouth shut or risk losing your job.

BOB. Maybe. [Pause.]

ALEX. What I really don't like is how they treat you when you're having problems.

WILLY. They? Who are "they"?

ALEX. You know, administration, faculty, other people, and advisors. You're just told, "Oh, it's ok. You'll work through it." Or, "it will get better. It'll be wonderful in the end."

TREK. True.

ALEX. If you say, "I'm sick of this," people will think you're a loser. There's really no outlet for your emotions in that sense.

BILL. Willy can tell you about emotional outlets. Right, Willy?

[Willy laughs and looks embarrassed.]

ALEX. Anyway, it's depressing. And frustrating! Students who are depressed think college is *supposed* to be hard work. They fall into the idea that it's *normal* to be depressed—it's just a means to the end. During that time they might develop habits that carry through that are not good.

EMERIL. [To Alex.] I'll drink to that.

[All laugh.]

BOB. [Mockingly.] Don't worry, Alex. You'll work through it! [Holds a beer up in the air.]

[All laugh again and take a drink.]

TREK. No wonder there's so damned much depression on campuses now. Did you know one university held a national conference in 2003 just to talk about depression in school?

BOB. No. Really?

TREK. Yes, really. The atmosphere and expectations of the university causes it, in my book.

ALEX. For certain personality types, anyway, the rare non-linear thinkers like me. [Smiles.] Continual linearity doesn't seem to phase some people, the mainstream ones, who just want knowledge delivered to them in a nice, neat little package.

[John returns from Passageway #1 carrying a tray with a basket of fries and a burger. He sits down again and begins eating.] What's wrong with linear thinkers?

ALEX. Nothing, if that is your natural inclination. I'm just not a linear thinker.

BOB. Then linear thinkers may go through a crisis when they get out into the real world, when there is little structure and no one to tell them every move to make.

ALEX. I just wish everything wasn't so hierarchical and linear. That's what *really* frustrates me—having to adjust to linear thinking *all* the time.

BOB. College is doing a disservice to them. It's also doing a disservice to me because I don't fit in with mainstream learners. And college is all about mainstream learning.

ELIOT. I agree. Mainstream, *shallow* learning.

ALEX. Yes.

ELIOT. [Takes sip of beer.] I think first experiences are really important. I hated school when I first came here. Campus is so big, with so many people. I was never comfortable with just going up to people to start a relationship. Or even a conversation, for that matter. I had trouble finding smaller groups to share thoughts with, people I could relate to.

BOB. I did, too. So what happened?

ELIOT. My idealized view disappeared within the first class I took. And that feeling has stayed with me, I guess.

JOHN. [Trying to change the subject.] Did anyone go to the game yesterday?

BILL. No. Did you?

JOHN. You bet.

BILL. How was it?

JOHN. Not bad.

WILLY. Did you just come from class?

JOHN. Yes. [To Edwin.] Hey, Ed! What's happening? Where have you been keeping yourself? I haven't seen you around lately.

EDWIN. That's because I *haven't* been around!

JOHN. Where have you been?

EDWIN. I decided to take a semester off and explore the West.

JOHN. Why?

EDWIN. Things were building up—issues with school.

JOHN. *Issues?*

EDWIN. Yes, *issues*. Strong frustrations, little motivation to do the work, issues like that.

ALEX. You took a semester off to go on vacation?

EDWIN. It wasn't a vacation. It was more like a vision quest. You know, like Native Americans used to do? A time to discover who you really are.

ALEX. Awesome. Who did you go with?

EDWIN. I went with my roommates. They had the same feelings about school as I had. We talked and talked about things that bothered us, and then one day we finally just said, "If things are this bad, let's just do it!" So we did. It was really good to follow through on it instead of the trip just being a fancy pipe dream.

WILLY. Where did you go?

EDWIN. We went all around the Western part of the U.S.

WILLY. You just drove around?

EDWIN. No, we backpacked, climbed, hiked.

Willy. You just hiked and climbed?

EDWIN. No. We did that a lot, but I also did a lot of reading, too. Learning about myself, getting comfortable with who I am. It was really good for me. We'd stay in one place as long as we felt like it, and then we'd look at the map and decide where to go next.

Willy. [To audience.] That's what self-organized criticality is all about, and having a space to be who you are. [To Edwin.] Do you think that would have happened in a classroom?

EDWIN. No way. Learning extends beyond the classroom and beyond the professor, you know.

BOB. You dog. Must've been nice.

EDWIN. Nice? It was the best time of my life! It really changed me.

WILLY. [To himself loudly.] That's a bifurcation point in chaos theory. And self-organization and emergence.

EDWIN. Taking a break gave me time to breathe. I got things out of my system. I do things now even though I would rather do something else. The trip just kind of re-energized me!

BOB. I could really use some time away from school. There's only so much you can learn in a classroom with a prof who just does power point and lectures.

TREK. Yes, if you call that learning!

BOB. What a way to learn--doing things and learning things you can't learn in any classroom. I could *really* use time away from here right about now.

EDWIN. Bob, you should do it. I feel more calm now, and a lot more accepting of things. I see my duty as a student now—I see things that can be done.

ALEX. Duty?

EDWIN. Well, yes. I see now that it's my responsibility to make changes in my life. I feel more in control now.

ALEX. Control—now that's an interesting word! I feel like I'm controlled in most of my classes, except for one class that I had. I really liked that one.

WILLY. What was different about that one?

ALEX. Well, the prof supported our personal styles and our personalities. He really encouraged us to engage in class.

EDWIN. I think I know who you mean. I had the same prof. He encouraged us to be creative and critical thinkers.

ALEX. He was so different from a prof I have *this* semester. This prof loves to talk and speak up front of class. He *lives* to get up and assert his domination! He knows he's more knowledgeable on the issues than us. [Takes drink of beer.] I hesitate to even raise my hand and ask a question in *that* class.

BOB. I know what you mean.

ALEX. He's very condescending. He always expects us to ask questions, but I can tell by the way he responds to them that he doesn't really like it. I almost feel threatened. It's not the best way for me to learn!

BOB. Yeah, talk about subtle control!

ELIOT. When I start to feel controlled I just get away. And stay away.

ALEX. That's one way to deal with it, but sometimes you just can't avoid it if it's a required class with few sections. [Pauses.]

ELIOT. Yes, you can. [Quietly.] You just *stay* away.

ALEX. For once, I'd like a say in what I learn and how I learn it.

BOB. So would I.

TREK. There's no reason that something like that couldn't be built into curriculum, or a self-guided independent study. It's like, no one here with any authority on campus wants to try anything new! There's always a lot of talking, but no one really wants to give up any power. And it's all about power here.

[Professor Neo enters from Passageway #3. Walks over to group at tables. Alex, Bob, and Trek look at each other, uncertain what to do.]

PROFESSOR NEO. I've been listening to what you've been saying. Do you really think profs like having so much power over you students?

ALEX. Well, yes, as a matter of fact, I do. It's the easy way out: stand up in front, spew out a few facts, and all the time being somewhere else in your mind.

PROFESSOR NEO. Let me tell you, I've wanted to be a teacher ever since I was young and reading H. L. Menken. And I've always wanted students to *think* for themselves. I wouldn't get any kick out of doing all the work for you, or all the thinking, for that matter. [Walks over to small bar and sits down on stool by small bar.] Bartender. I'll have a shot of Jamison.

[Bob, Alex, Trek, Eliot, and Emeril continue talking.]

ALEX. [Turning to Bartender.] We could use another pitcher of beer over here, please.

TREK. And some more peanuts [holding up empty basket.]

BARTENDER. Coming right up.

ELIOT. [Sighs.] I need a break from school.

EMERIL. So do I. But, as I always ask myself, how would that help in the long run?

ELIOT. Maybe if I spent a year or so off I would have an opportunity to explore some of my interests.

EMERIL. Or, you could screw up, and get recessed. That would give you a year off!

[All laugh.]

ELIOT. [Smiling.] I could. But that would be someone else's decision, not my own. And I don't want someone else making my decisions for me. That's the whole trouble here—everyone thinks they know what I need to learn and how to learn it. But they really *don't* know.

EMERIL. I wish I'd taken some time off. There are a lot of majors to choose from and time away would have helped me choose one. I wanted to, but I was pressured to just get done.

BOB. Maybe I could have taken two years off to go exploring before I enrolled myself in the University. One of the things that I'm beginning to think is like, "What if I did that?" I mean, how would my perceptions have changed?

TREK. Time away seems like a smart way to go.

WILLY. There is so much uncertainty! And uncertainty creates so many potential outcomes.

TREK. Yeah, you never really know how things might have been if you'd made different choices.

[Professor Clyde enters through Passageway #2, walks over to small bar and sits down next to Professor Neo at small bar. Lights up over bar area.]

PROFESSOR NEO. Hey, Clyde.

[Clyde nods to Professor Neo.]

BARTENDER. What'll you have?

PROFESSOR CLYDE [To Bartender.] I'll have a glass of Gewürztraminer, please.

[Bartender gets the wine, and hands glass to Professor Clyde. Professor Clyde turns to look at students.]

PROFESSOR CLYDE. Oh, great. Undergraduates. Here's to the end of the semester.
[Holds glass in air to Professor Neo.]

BOB. My classes sure aren't student centered. I don't feel like they're centered enough around me at all.

WILLY. Why?

BOB. There is knowledge that I'm supposed to absorb. I feel like I can't contribute. I just have to absorb.

EMERIL. You mean like Sponge Bob, Bob? [Willy, Emeril, and Eliot laugh.]

BOB. Funny. I mean interaction in the sense that it's open enough to where I'm able to say, "This is some of my knowledge, and I'd like to be able to use this," instead of being in a situation where, "These are all my criteria and I just have to work around them."

EDWIN. Yes, they expect you to learn all this stuff, but don't provide an opportunity to use it, or even connect how it might be applied.

TREK. Yes, I like hands-on learning. I had a class once where we went to visit a blacksmith shop. He showed us how to shoe a horse and then we actually got to try it ourselves.

WILLY. Awesome.

TREK. We also learned about carving wood, chopping wood, and we used old-time hand tools. We even made lunch from the stuff we grew.

WILLY. What an awesome way to learn!

TREK. There was even a mud oven that we used to make pizza in.

BOB. That's really great, but for me, it's more than just applying what I am learning. I need a space where I can really be a leader. I can't do that in any of my classes now. Like, what would I do? Lead my classmates to their seats in the 300-person auditorium?

ALEX. [Laughs.]

JOHN. Dudes, what do you *expect* from classes?

ALEX. I expect to be able to express my creativity and my interests. I need a space to be creative, emotional, and mental space, not just physical space. I don't think that's unreasonable to expect that from a class.

JOHN. Most of my classes were very structured.

ALEX. Most of my classes have *tight* structure—I get told [mockingly] *all* I need to know about what I don't really care about, like, I can't apply most of the stuff. Maybe in the future, but what's the point now?

JOHN. Exactly! That's why I keep saying, "Just get done."

ALEX. Everyone is always saying, "Be creative! Employers want that kind of thing." But I haven't heard any prof yet say, "you're going to be rewarded for being creative." Or, "We're going to do things where you'll be able to *be* creative."

EDWIN. Or, in the very least, "You won't get punished for being creative thinkers."

JOHN. [To Alex.] Dude, you sound desperate.

ALEX. I'm not desperate. Just damned frustrated with the way things are. I just can't stand learning in such a linear way. I'm a nonlinear thinker trapped in linear classes. I have no space to think for myself, I can't be creative.

JOHN. What's the big deal about being creative?

ALEX. Creativity prompts innovating thinking—new ideas, new ways of doing things.

JOHN. They don't really want you to be creative here, anyway.

ALEX. That's not what my teachers told me in elementary school. It was, "Learn to be creative, think in different ways. The banana actually *can* be blue!" Well, at least a few of my teachers thought that way.

JOHN. You want a blue banana? [Laughs.]

ALEX. [Disgustedly.] John, that's just a metaphor. [Turns to others.] Now, it's "I'm going to tell you all you need to know." How does anyone know what I need to know, anyway? Random stuff doesn't connect with anything I already know.

WILLY. [Hesitantly.] They could just *ask* what you'd like to learn, couldn't they?

[All others just look at him, and then burst out laughing.]

[John laughs until tears roll down his cheek.]

JOHN. [Wiping his eyes.] You dudes are really something else. Are you sure you should even be in school? Academics don't seem to be your thing.

ALEX. Learning is, but the way academics is practiced here, really isn't.

ELIOT. Academia certainly isn't my thing. I guess I haven't really had anything that even attracts me to academics.

TREK. [To Eliot.] What about an academic learning journey?

ELIOT. [Pauses.] I guess I really haven't had an academic journey yet. I really haven't attached myself to . . . I don't know how to say it. It's been more like an external factor than anything really driving my going to school.

EDWIN. Yes, it's tough for me to feel connected to anything sometimes. Profs can be hard to approach.

BOB. I don't think some profs realize what a huge impact they have on students; profs and class size.

TREK. I can easily tell when they aren't into what they're teaching. In my last class, you could tell the prof had something else he would rather be doing.

EMERIL. [Laughs.] Yes, like taking a walk in the Sahara desert with only a 32-ounce bottle of beer and a bag of peanuts.

[Trek, Alex, and Bob laugh.]

BOB. I like a one-on-one conversation with my professors, but that's really hard for me to find. And when I do, I get all nervous and afraid of them because I'm afraid of being shut down. Then I feel depressed and detached.

TREK. I felt that way until just recently. Now I feel more energized. Most people say they're burned out, but, now, at the end of my fourth year, I've figured out what I really want to get into; a new discovery almost.

WILLY. That's what I really want when I get to school—a one-on-one conversation with my professors.

BOB. Do you really think that's what you'll get?

WILLY. I hope so.

[Everyone else just looks at him and then ignores Willy's comment.]

TREK. Maybe I've been alienated through other classes, entropy, maybe, and they've taken me from what I wasn't interested in to what I want to do. They forced me to take other classes and through those classes I have found what I really want to do.

WILLY. How has that helped?

TREK. I'm more focused on what I *want* to do, negative experiences with teachers actually helped. If I had only positive experiences, I wouldn't be doing what I want now. If my advisor had actually *helped* me, I wouldn't have had to do all the stuff on my own that I did. By experiencing the negatives and knowing that's *not* what I want, I got to where I am now.

WILLY. That's order emerging from chaos. Oscillation or dissonance are necessary in order for there to be any change. Change can't occur if everything is in equilibrium.

EMERIL. [To Willy.] Dude. You really need to stop saying things like that.

WILLY. Well, it's true!

TREK. [Laughs.] Willy's right. In some sense, the negative experiences *did* really help. They made me realize what I *don't* want.

BILL. But that's not what usually happens. Having a distant advisor and negative experiences with profs and classes may have pushed *you* into taking more responsibility for your own learning, but that may have caused someone else to just give up and drop out. Or burn out.

PROFESSOR NEO. [Turns to Trek.] Sounds like the advisor just created a space for self-organization. It sounds to me like what you *all* want is an alternative learning environment—a space where you can self-organize—be what you are meant to be. A space for self-directed learning, co-deciding what you want to learn and then taking the responsibility to do it. Bartender. Another one.

PROFESSOR CLYDE. [To Bartender.] What is he talking about? [Bartender shrugs shoulders.]

WILLY. [To Alex.] How long have you been in school?

ALEX. A couple of years.

WILLY. How has it been?

ALEX. It's been pretty chaotic for me. It seems it's been this way since the beginning, the switching of different things, right on the fly.

WILLY. Do you mean changing majors?

ALEX. Yes, that, too. I can't seem to settle down to one thing. There's lots of transition and change. I have trouble sticking with one thing.

WILLY. How does that affect you?

ALEX. It's strange, but it feels sort of comfortable when things are so chaotic. I change my mind all the time. I like experience and interaction.

WILLY. Did you expect it to be that way when you first came here?

ALEX. No. It's really frustrating. College is not what I thought it would be. It's my fault for being an idealist, but I want to do something I'm *passionate* about. So I'm switching majors again.

EDWIN. I did that, too.

WILLY. When did you decide to change?

ALEX. Um, probably at some point last year. Once I started to get a sense of what kind of options I had, I stuck with it, hoping it would turn out differently. I guess it's more

important to do something I like, rather than staying with something until I have too much invested, like, “get out before it’s over my head.” I’m doing it again, though.

BILL. So what actually prompted the shift?

ALEX. Last semester was kind of a breaking point. I took this class. When I got in it, I thought, “Oh, man, this is not something I could actually do,” at least the way the prof presented it, all linear and rigid.

BILL. What do you mean?

ALEX. Well, when the prof taught in a linear fashion, and referred to it as “boot camp, gonna square you up!” I knew *I* wouldn’t fit in too well.

JOHN. So? What’s so wrong with “squaring you up”? Students *need* to be shown how things are. Don’t they?

ALEX. There was no focus or class interaction—the prof firing questions to each person and we’re firing back. There was no overall effort to personalize anything. No interaction within or among class members.

[Lights brighten over an empty table near students. Professor Marshall marches in from Passageway #2 wearing military fatigues, carrying a laser pointer like a weapon, and marches over to the table. Sounds of jets overhead dropping bombs in background. Professor Marshall paces back and forth, points and fires a power point laser at empty chairs around table. All turn to watch.]

STAGE MANAGER. [Offstage.] It’s a war out there. Get ready for it!

[Without a word, Professor Marshall turns, and marches offstage through Passageway #4. Lights dim over empty table.]

WILLY. [To Alex.] That’s kind of frightening.

JOHN. Why should there be any interaction? I keep telling you, just learn what they want you to learn. Study what is going to be on the exam. Who cares if class is *boring* or not? Who cares if there is interaction? Just get through and get out! Just get the degree!

[No one responds to him.]

[Bob and Trek push their chairs back away from the table.]

[HB and Pablo enter from Passageway #1, walks over to Bill.] Pulls a table close to the table where Bill, Trek, and others are sitting.]

[Bill, John, Eliot, Alex all turn to greet him.]

BILL. Hey! What's happening, HB? [To Willy.] Here's another world traveler! HB, this is Willy.

WILLY. What's up? HB?

HB. Hi. Don't ask. I was named for my great-grandfather.

[Bill to HB and Pablo.] This is Willy.

PABLO. Are you here visiting Bill?

BILL. No. Willy's not in school yet, but he can't wait to get here. He can't wait to have a *meaningful* discussion with his profs. [Laughs.]

WILLY. That's getting old, Bill. You've been away, like Edwin?

HB. Yes. I took a year off to study at another university. It was really great.

WILLY. [To all.] Do a lot of students take time off?

HB. I doubt it. It wasn't really time off—it was just learning elsewhere. Most students, I think, just rush through to get college over with and to get their degrees.

JOHN. Rush through? You mean get through on time.

HB. A few of us are different. We just don't think like the mainstream. And I needed to get away.

[Bartender walks over to Pablo.] What'll you have?

PABLO. I'll have a Blue Moon, please.

BARTENDER. Coming right up.

PROFESSOR NEO. [Holding up glass.] Another.

[Bartender nods and walks back to bar.]

BILL. So things are more settled for you now?

HB. [To Bill.] Well, since last semester, I'm finding a comfort zone. I know what it takes to get the grade I want.

JOHN. [To others.] See?

HB. But it is also a little bit frustrating this semester. This is the first semester I'm taking required classes. What really frustrate me are the classes I have to take.

[Everyone on stage groans loudly.]

BOB. Required classes!

JOHN. Oh, no! Do I have to listen to everyone rant on and on about classes again?

PABLO. I know in college you're supposed to have a well-rounded education, but...I just don't like them

PROFESSOR CLYDE. [Turns to students.] What exactly is the problem with *required classes* [mimicking their tone]?

PABLO. They don't have any direct connection to my interests.

EDWIN. Yes, most of us just don't like them.

PROFESSOR CLYDE. [Sarcastically.] That's hardly a surprise. You just want to be entertained!

BOB. Hardly. For one thing, required classes are not like core classes where everything is related to each other. Required classes are all over the place!

[Trek, Edwin, Alex, and HB all agree.]

EDWIN. There's no connection to anything. I'll never use any of that stuff. I can't even apply any of it *now*.

[Professor Clyde turns his back to students and takes sip of wine.]

TREK. I wish I had time to do something other than study and work. I have no social life whatsoever.

HB. I was pressured to be social for the first two years of school. You're almost looked down upon if you stayed home to study. It wasn't until I set my own standards that I got back on track.

TREK. I went through that stuff, too. But I got back on track.

WILLY. How did you manage to do that?

TREK. I left school for a while to go to another state, like you, HB. I needed the space to have my *self* emerge, and I wasn't getting that here in my classes, or any of my

experiences here on campus. I just felt something was missing. After a really bad experience (one that I'm not sharing with you), I returned to school.

WILLY. [To himself.] That was a real bifurcation point.

EDWIN. Something seems to be missing for me, too. I switched majors two years ago, but I wish I'd stayed in my original one. That was a better fit for me.

BOB. I've switched majors, too.

JOHN. You changed majors? Dudes! What were you thinking? You can't get through school in four years if you do that!

ALEX. John, it's not just about getting *through*. It's all about connections, relationships, critical thinking, and having space to be who we're meant to be. And it's not about being who someone else *shapes* us to be. That's what school has been so far. It's really frustrating!

JOHN. Well, just try to find someone who has some say about things here on campus to agree with you. [Laughs.] Pass that pitcher over here, will you?

[Willy passes the pitcher of beer to John.]

EDWIN. I was uncomfortable when I first came here, too. It seemed too big.

WILLY. What changed?

EDWIN. One thing I found a different space to learn.

WILLY. An alternative learning environment. I've read about those.

[All turn and look at him.]

WILLY. I do read about new things. Don't you?

JOHN. Yes, I certainly do. I read about who won the football game, and the stock market reports. [All laugh again.]

EDWIN. Yes, I did find an alternative learning environment. See, I can use big words, too. [Laughs] Actually, I found two of them. They made this university seem smaller. I made connections with other people who always shared interesting opportunities and information.

WILLY. How did they change things for you?

EDWIN. Well, for one thing, I stayed in school instead of dropping out for something else. I was really frustrated for a while.

BOB. I'm frustrated, too, *and* stressed out. There are organizations I want to be a part of and social events. On top of that are all my classes and homework. It's really chaotic, but I'm attracted to all these things. But I just don't have time to do everything. If I could just find *one* place that provided the same kinds of opportunities, I think things would be better.

PABLO. That really frustrates me, too. There are so many opportunities here, but I just don't have time to do everything I want. There *are* a lot of choices to make.

WILLY. But isn't having choice a good thing? I mean, at least you get the chance to do some of the things you want.

ALEX. That's good.

PABLO. Yes, choice is good. I'd feel better if I enjoyed more of my classes. I had this class with a really terrific professor. He was *really enthusiastic*! And he applied what he was teaching to everything.

WILLY. You mean like whole-systems application?

PABLO. Yes. Whatever you call it. It was in-depth, hands-on, fun, and I learned a lot. He lectured, used power point, and did interactive stuff. Those dynamic interactions kept me motivated and engaged.

ELIOT. Well, not only do I dislike my classes, required or not, I guess I really, really don't like school. I don't like it at all.

PROFESSOR NEO. [Turns to Eliot.] You don't find anything joyous at the University?

ELIOT. Not really.

PROFESSOR CLYDE. Why not? Don't you want your degree in *something*?

ELIOT. [To Professor Clyde.] Getting a degree is only a way of perpetuating the class system. It's a piece of paper you buy for a resume. I always figure it's just something to work through to get a better job. But it's been difficult for me to go to classes consistently and focus on the assignments.

PROFESSOR NEO. You sound a bit disillusioned with the entire process.

ELIOT. I am.

EDWIN. It was the same for me, too, before my trip. [Pauses.] What really interests me in a class is openness and flexibility versus just memorization and regurgitation; someplace where you have freedom to think.

PROFESSOR NEO. Ah hem. [Clears throat, stands and bows, then sits back down.] Thank you. You mean a class that is intellectually challenging?

EDWIN. Yes, and emotionally challenging and enriching. And where you can *physically* do things. Where you can look at things as a whole rather than in pieces. And class size is also a factor. I've never had a good experience in a class over, say 20-30 people.

[Alex nods his head, affirming what Edwin is saying.]

PROFESSOR NEO. [Addressing everyone.] What else can you tell me about that?

HB. College, to me, is just mechanistic and all about marketing students. It just seems like . . . I don't know . . . I don't like how college seems to be a business. I like classes where there's thought involved. Large classes are just a money generator, anyway. I don't think anyone can learn anything from a class like that. That kind of learning will stay with you only a few months, if that.

ELIOT. That's shallow learning.

JOHN. That's long term to me. I learn what's on the exam and call it good.

EDWIN. I don't like lots of equations or just facts. My mind doesn't think that way. That's not the best way for me to learn. It's a real struggle, working against my brain.

PROFESSOR NEO. You are all mentioning the same kinds of concerns. Students have never mentioned any of those kinds of concerns before. [Pausing, thinking.] So just what *is* your ideal learning environment?

ALEX. Well, I need to find meaning in what I'm learning. If it's not something I don't care about, it's hard for me to stay focused. I just drift off to think of other things that are more important to me.

PROFESSOR NEO. And?

BOB. My ideal learning environment is one where I don't have to adapt to everyone else. I've had to do that just to get by for a long time now.

PROFESSOR NEO. What else?

EDWIN. I don't want to fall into the system of just learning inside the system, *and* the classroom, for that matter. In order to feel engaged, I need to be able to just apply what I learn, and go outside the classroom to experience it in the real world.

ALEX. I prefer a combination of individual and community learning. You need to use other people to learn. It's *comfortable* and a lot more *efficient* to have other people to learn with.

BOB. I agree.

ALEX. Besides, if there's something you want to say, but can't get it out, other people can help you.

EDWIN. Yes. It helps you to be more engaged, I think.

ELIOT. I can't remember feeling engaged. [Pauses to think.] Oh, yeah. I *do* remember that one second, that *one moment* where I really felt connected.

WILLY. Where were you? What were you doing?

ELIOT. I was on an overseas study trip. I remember standing in the rainforest at night in the pitch black and thinking, "I've never seen darkness more complete." Not even the light from a single star could penetrate that dense canopy.

WILLY. You couldn't have had that experience around here because there's so much light pollution.

ELIOT. [Smiles at Willy.] No, I couldn't have. I was robbed of the sense of sight, so I just listened to and felt everything about me. Never have I felt more a part of life and *everything*, nor more humbled. That was one of my best days.

BILL. I remember you talking about that trip. Awesome!

PROFESSOR NEO. Wonderful!

[Silence.]

ALEX. [Takes another drink.] I think that narrow-mindedness is a killer. Administrators and some faculty are so focused on the degree that they lose what is really important.

EDWIN. I have something to say about that. Not to give a long response, but . . .

BOB. [Laughs] You? A long response? Are we surprised?

EDWIN. Well, what I want in a class are small groups and room for reflection. I want a place that's open and safe, respectful, where I'm encouraged to ask questions, and encouraged to voice my opinions. I like structure, not everything loosey-goosey, a plan of action—but an amendable plan with guidelines, not outcomes planned, and a mediator to keep things moving along.

BOB. I . . .

EDWIN. [Cutting him off.] *And*, at the end of a learning experience, a chance to go over things to paraphrase the ideas and to think about what I've learned. I'm also a visual learner, in case you wondered.

JOHN. I didn't wonder. [Turns to Bill.] What's a visual learner? [Bill just smiles.]

TREK. It's important to have experiential learning, too, journals and things and actually getting involved on a personal level makes it easier. I like service learning, too.

BOB. I don't like the idea of pinpointing a student to have him respond to questions. That's frightening to a student because there could be days that you're not well prepared with an answer.

ELIOT. [Leans forward.] Yes, I hate to respond or answer a questions in front of class; the whole class.

BILL. I never liked that either. But it happens all the time! It's like profs are out to catch you up instead of wanting students to succeed.

ELIOT. I just feel very self-conscious, nervous, and uncomfortable in class.

WILLY. Why?

ELIOT. I don't know. I guess I don't feel that I have very much in common with others in class.

WILLY. Maybe that's because you really *don't* have much in common with the others.

BOB. I always feel different, too.

WILLY. Do you think you *are* different than all the other students?

BOB. I don't know. We probably go through the same experiences, but a little differently. I think I'm the guy with the most problems.

ALEX. Ha! Don't bet on that.

BOB. I haven't heard of anyone else who talks about that. For me, guys don't open up about things. They don't talk much.

HB. You seem to be doing a lot of talking today. [Laughs.]

BOB. Maybe so, but I don't usually open up to people.

ELIOT. Well, I've had a feeling of not fitting in with what seemed to be the general student body ever since I came here. I think that most people are really self-involved, not caring about other people at all—only about themselves. I'm not like that.

EDWIN. Yeah.

ELIOT. This sounds pretty cynical of me, but it seems that way from what I've experienced socially or what I've overheard.

PABLO. I consider *myself* to be a unique person, but a lot of people just seem the same to me. They all blend together. I try not to do that. Sometimes I even try *not* to do stuff that too many people are doing.

JOHN. You're doing it pretty well, too. [Laughs.] Get it?

BOB. Well, other than you guys, I haven't heard any other guys talk about this stuff.

TREK. We may not talk about things, but that doesn't mean we aren't going through the same kinds of things. At least the people with my personality, anyway.

ALEX. It's not easy for me to socialize. I'm good at being a phony people-person, but when it comes to making social interaction, I'm pretty awful at it. [Laughs.] It's an awkward feeling when you're not like anyone else. When you slightly despise people, it's hard to hang out with them.

JOHN. You're hanging out with us, aren't you?

ALEX. Yes, and it's hard! [Laughs.]

BOB. I feel different from the rest in most of my classes. I'm relational. Part of the problem in classes is that most profs don't want to know how you feel, and I have more of a relational style.

EDWIN. So do I.

BOB. [To Professor Neo.] Kids kind of zone out just to get by, missing the whole. They just do what will satisfy the teacher, and hope they don't get called on the next time.

JOHN. I've never had a problem with that.

PROFESSOR NEO. Have you ever done any inner exploration? You know, try to learn more about why you do what you do and why you think what you think?

JOHN. No. Why would I do that?

PROFESSOR NEO. You'd learn more about yourself, and others.

JOHN. Doesn't seem worth my time. If I *wanted* to do that, which I don't, *how* would I do that?

PROFESSOR NEO. You could take a personality sorter and learn about patterns in personality, temperament, and behavior. It's part of discovering who you are, but it can be very informative. Or, you could read about various learning styles and multiple intelligence. You could also do some reflective writing. There are a lot of ways. You just have to want to do it.

JOHN. Writing? I *hate* to write! I'd rather just *talk* to people.

PROFESSOR NEO. You could talk to other people and make a point of it to notice differences and similarities. You're probably an Extravert.

JOHN. An Extravert?

PROFESSOR NEO. Yes. Extraverts tend to think out loud. These people [makes sweeping motion around table] all seem to be Introverts. They want [pause] no, they *need* time to think before speaking.

WILLY. It has to do with cortical arousal. I know a little bit about biophysical responses.

JOHN. You seem to know a *little* about everything!

PROFESSOR NEO. Yes, he is correct. Introverts have greater cortical arousal to auditory and visual stimuli than do Extraverts, you know. Introverts don't need external stimulation to generate ideas, unlike Extraverts.

JOHN. [Sarcastically.] Thanks. I really needed to know that.

HB. Now that you mention it, I think I have taken a personality sorter. A couple of times, in fact. I'm 1% of the general population: Introverted, Intuitive, Feeling, and Perceiving,

ALEX. Same here. I took that a couple of times, too. Both time showed that I have a very clear preference for intuition. That really describes me.

JOHN. So what does that mean?

ALEX. That means that, whereas some people just trust information they take in through their five senses, like you, probably, I trust my intuition. It's like a sixth sense.

WILLY. Actually, it's subconscious. It's when you know something, but don't know how you know it.

JOHN. I've don't feel that way very often.

BOB. I certainly have.

TREK. So have I.

STAGE MANAGER. [Offstage.] University classes are predominantly geared toward people who prefer Extraversion, Sensing, Thinking, and Judging; people who are linear, factual, and product-oriented, you know. The university rewards Sensor Judgers, and does *not* generally reward students with Intuitive, Feeling, Perceiving preferences.

JOHN. There's little opportunity in class for people who are relational, and I like it that way. Emotions just get in the way of learning for me.

ALEX. Being relational doesn't necessarily mean being emotional. It just means that you like interaction and place emphasis on values, voice, stuff like that. In class, I have difficulty learning in a linear fashion and by just absorbing facts and figures. I have to see how things link to one another. I notice patterns. I'm also a big picture person.

JOHN. That's sure not my style. Just give me the facts. I know what's real when I can see, hear, taste, touch, or smell it. Now *this* is real! [Drinks beer.]

ELIOT. As soon as I hear facts I start thinking of context, what those facts mean, and other more complex things. I start linking what the prof is saying to other things.

BOB. So do I. I tune out if I have to sit and listen to lectures of what someone else thinks is the "correct" information.

STAGE MANAGER. [Offstage.] But there are other ways of knowing. Intuition as a way of knowing is not valued or generally rewarded in most market education, and is often discredited.

[All on stage, including students, professors look at each other in astonishment.]

STAGE MANAGER. [Offstage.] I haven't always been a Stage Manager, you know. [Pauses.] Intuition is also linked to creativity and engaged learning.

ALEX. [Looks around.] He's one *spooky* dude. I think feeling connected has a lot to do with the size of the classroom and the professor. In my classes, you can tell that many of the profs have other things they would rather be doing. It is pretty easy to see that—they don't even make it a point to disguise it.

[A few notes from the music of Jaws plays as Professor Clyde gets up from bar and walks over to students and joins Professors Neo.]

PROFESSOR CLYDE. I've been listening to what all of you have been saying for some time now, and I feel compelled to respond. You've complained, whined, and more about all that's wrong with your classes. You students just *cannot be pleased*. *Experts* from

many fields draw upon their *vast* experience and research, spend time preparing lectures and deliver them to more than 200 students at one time, in many cases. Yet you demonstrate *no* appreciation for the knowledge *we're giving you!* Am I ever *glad* I'm retiring soon! Time away? Interaction? Connection? Engagement? Creativity? HA! This is the university, NOT nursery school. Why, when I was in school . . .

PROFESSOR NEO. Clyde, that was eons ago. Things have changed. [Professor Clyde glares at Professor Neo.]

[Eliot moves chair away from both.]

PROFESSOR CLYDE. What are you talking about, anyway, “learn outside the classroom?”

[Bill, Bob, Alex, Edwin & Willy move forward to speak to Professor Clyde. Lights illuminate the group.]

BOB. Well, this is a first. A prof has never asked me what I want in a class, or how I want to learn, even if it is in a negative way.

PROFESSOR NEO. [To Professor Clyde.] This may be a real learning experience, Clyde.

[Professor Clyde gives Professor Neo a dirty look.] You don't know what reality is. This is the real world!

BOB. Well, I believe that what I *perceive* to be my reality *is* reality. And it's *infinite*.

PROFESSOR CLYDE. I've never called a student weird before, to his face anyway, but you really are.

[Professor Neo takes Professor Clyde by the arm and guides him away from Bob bar to another chair near the table.] Now, Clyde. You've been warned about this kind of behavior.

BOB. [Talking to Professor Clyde's back.] Just because I see things differently than you do does not make me weird. In fact, people who are extremely intelligent are often perceived as being weird. But I guess you wouldn't know anything about that.

[Professor Clyde and Professor Neo sit down at a table next to students.]

TREK. [Hurrying to intervene.] We'll be glad to tell you what we would like.

ALEX. Just like I said before, I want to learn outside the class as well as inside.

TREK. Learning outside the classroom really changed me. I become much more engaged and interested in what I was learning if I could actually visit places and talk to people involved in the issues.

EDWIN. And I need to be able to *apply* what I learn. I'd like to be involved in some study or project going on anywhere, not just on campus, so I wouldn't be restricted—it would be a way to keep my options open and to learn about new and exciting ideas that are going on.

PROFESSOR CLYDE. [Turns to group again.] Give me an example, *if* you can.

BOB. Well, say, for example, you were learning about building a house. A prof could tell us all about drywalling whether or not he had any experience with it. Or, we could contact someone outside the university, someplace place where we could go to learn how to properly install drywall, like Home Depot. They give little seminars every now and then. Professors could say, "I understand that each credit of the University requires two to three hours outside of the class. Let's spend a week going to Home Depot to learn how to drywall." Something like that.

EDWIN. You could apply that type of thinking to learn anything!

HB. I'm a holistic, systems learner—a little bit of everything works for me.

EDWIN. I like to learn through dialogue and encourage people to speak up and hear what they have to say—get input from the entire group.

HB. I'd like a safe space, a place where you can make mistakes, but you're not judged.

BOB. For once, I'd like to not have to adjust to everything else just to get by. What a waste of my money! I'd just to have something adjust to me and my way of thinking!

TREK. I'd also like to see more enthusiasm in teachers—not like you're here just because you have to be. Classes should be inviting to students with diverse teaching styles and ways of learning both in and out of the classroom.

PROFESSOR CLYDE. Inviting! Why should you be invited to learn what you're *supposed* to learn? How would *you* teach? How would you actually *implement* how you *say* you want to learn?

EDWIN. For one thing, I would teach students to question *everything* and to not just accept things at face value.

PROFESSOR CLYDE. [Sarcastically.] Right.

EDWIN. For another, I would encourage alternative ways for them to learn, ways best suited to each person. I would encourage students to present what they've learning in various, interesting ways as an outlet for their creativity.

PROFESSOR NEO. And?

EDWIN. I would have them try to tie in some of their personal interests to they're learning. Maybe to invest in some type of project or study that's going on either on campus or outside campus. I would encourage a lot of sharing. I like to learn through dialogue. I would encourage people to speak up and hear what they have to say—get input from the entire group.

PROFESSOR NEO. What about the rest of you?

ALEX. One thing I do *not* like in classes is where profs don't try to spark any interaction in class discussion. Where the prof doesn't relate with people in your class. The best way to learn is with other people, not through competition, or battling.

EDWIN. But the way grading and evaluation are set up inherently creates competition.

PROFESSOR CLYDE. A little stiff competition never hurt anyone. It's good for you. It gets the blood flowing.

BOB. I'd do personal essays to have students look inside themselves, their values and why they feel what they feel. If they do that at the beginning of the semester, people get more confidence the rest of the semester.

PROFESSOR CLYDE. Yes, that's exactly what students need—more confidence. They're already too damn cocky.

ALEX. Maybe some students, especially some males, act that way to cover up the fact that they feel really threatened by the whole university atmosphere. And *you* don't make it any better.

[Professor Marshall marches in through Passageway #2, and walks over to table where Professors Neo and Clyde sit.]

PROFESSOR MARSHALL. The problem is with students is that there are a lot of *slackers*. You know, the ones who don't want to do things as they *should*. There're just *lazy* in my book.

ALEX. [To Trek.] There's the kind of person who gets mainstreamed in the profession. I don't know why they are even in the teaching profession. They're not passionate; they

just see it as another class. It's foolish to give all your efforts and training in doing something you're not passionate about.

TREK. Yes.

PROFESSOR CLYDE. Passion doesn't pay the bills, young man. Or get you published!

HB. I need small classes where I can feel connected and interact with everyone.

ALEX. There's no room for emergence. Classes are too linear and routine. There's too much hierarchy!

EDWIN. I want profs to be enthusiastic!

ELIOT. I dislike the shallowness that's promoted at the university level. I need an alternative learning space—one where there is connected learning, a place where I can really be engaged in what I'm doing

PROFESSOR NEO. I hear you there. If there had been an alternative learning environment when I was in school, I wouldn't have been recessed more times than I care to remember. There are better ways for some students to learn than the transmissive style.

ELIOT. I don't engage in school. A personal pattern of mine is taking and failing classes—not necessarily failing—failing to put forth effort.

PROFESSOR NEO. That's because...?

ELIOT. I have no real internal motivation to go to school.

PROFESSOR CLYDE. [Disgustedly.] Then why even go?

ELIOT. I go because of family pressure, guilt—unintentional on their part. That, and wanting to have a job that will remain interesting. *Those* are the driving forces for me to go to school. The other reasons that I have for failing at it is the feeling of *obligation* to go to school. That, and it's almost the only way to get a decent job. I can't really seem to commit to school.

[Brief silence.]

HB. I relate conceptually *and* relationally to things. If I don't find a high level of intellect in people and at-the-edge ideas, I quickly lose interest in the class or group. I've found very few people I can relate to in that way. I mean, ideas really interest me more than warm and fuzzy feelings.

ALEX. [To all.] I'm tired of the sameness, the lack of depth in school. There's no space for creativity. I'm tired of being viewed as a product—one that someone else controls and sells. I'm not a resource.

PROFESSOR NEO [To Professors Clyde and Marshall.] That's the kind of student we need to acknowledge. We need to create spaces that are a good fit for their personalities, their need for independence, leadership abilities, and autonomy.

PROFESSOR MARSHALL. [Sarcastically, to all.] You mean a provide place to pamper slackers?

PROFESSOR NEO. That's exactly the kind of thinking that is unproductive at best and highly destructive at worst. Slackers as defined by whom?

PROFESSOR MARSHALL. Slackers are students who don't want to follow instruction, *my* instruction, who feel compelled to question *everything* I say, who fail to come to class, who are always coming up with new ideas that don't fit with everyone else's, who don't follow what their superiors say—*those* slackers—as defined by *me!*

ALEX. [To Professor Marshall.] If you put all your “slackers” together, you may find a lot of creative people. Just because they don't follow whatever their superiors say doesn't mean they don't have a future.

PROFESSOR NEO. [To Professors Clyde and Marshall.] What is so difficult for you to understand? It is really quite *simple*. There are students who don't fit into the mass-market, student-as-product mentality of this university, and similar universities across the nation. Specifically, students who are . . .

WILLY . . . the introverted, intuitive, highly relation or conceptual, with strong values, who value deep thinking and creativity, and who value independence and autonomy.

STAGE MANAGER. [Offstage, to all.] Do you think Mozart, Shakespeare, Picasso, or Einstein could thrive in a highly structured, hierarchical, linear, transmissive style of education? HA!

ALEX. [Looking around.] I really wish he'd stop doing that! Can you just imagine some teacher telling Picasso that bananas must only be yellow!

ELIOT. Or some professor telling Einstein to keep his out-of-the-box-thinking to himself. Come to think of it, they probably *were* telling him that all the time!

PROFESSOR CLYDE. All right. I get the point.

EMERIL. If you want to look at it in terms of numbers, students similar to us represent 1%-4% of the general population. Classes are geared toward the 35% group. *Every* student could have a learning environment that suited to him.

WILLY. There needs to be changes at multiple levels.

PROFESSOR CLYDE. So what is *your* solution?

WILLY. As a starter, I think what is needed is a space for criticality, creativity, and synchronicity.

PROFESSOR MARSHALL. For *what*?

WILLY. For criticality, the point where something becomes self-sustaining. A student will self-organize into the person he is meant to be, if he has the space, the right environment, opportunities for creativity and leadership.

PROFESSOR MARSHALL. You mean critical thinking.

WILLY. No, that's different. Critical thinking is important, too. It's just different than criticality.

PROFESSOR CLYDE. Everyone knows about multiple intelligences. If they just know about that, everything will be fine.

PROFESSOR NEO. There's much more to it than just knowing about multiple intelligences, more than just knowing what you're good at. It's also about what motivates you.

PROFESSOR MARSHALL. I've heard enough. [Professor Marshall pushes back chair, gets up, and marches out through Passageway #3.]

TREK. [Sarcastically.] I can see this is really going to be a good day.

[Across stage, Administrator Al clears throat loudly. Willy looks, but says nothing. Administrator Al clears throat loudly again.] Ah-Hem.

PROFESSOR NEO. [To Willy and then at Administrators.] If you want to really find out what goes on here on campus on the administrative side, those two are the ones to talk to.

ADMINISTRATOR AL. I simply cannot sit here and listen to this any longer! Come on, Doit, I want to talk to them! [Administrator Doit scowls, but gets up. They walk over to students' table.] Hello, Clyde, Neo.

PROFESSOR CLYDE. Al, Doit, good to see you again. These *undergraduates* want things changed here.

ADMINISTRATOR AL. We have heard *everything*. So you *all* are dissatisfied with your university experiences? You want to see change at this university?

Alex. Yes, we would like to see some changes made here.

ADMINISTRATOR AL. Well, what exactly would you suggest? Do you students have any *concrete* suggestions, or are they all just wishes and abstractions? It's not as though we have a lot of *options* here!

TREK. I have some suggestions.

ADMINISTRATOR AL. I'm interested in hearing what you *think* needs to be *changed*, although, as you know, we *have* been conducting business as usual for longer than you've been alive.

TREK. Yes, I'm aware of that. One thing I would change is to get more teachers in here to teach—not just be employed here and teach just because they have grants and bring in money, and teaching is their side job. I would like to have more teachers here who actually *care about students*.

ADMINISTRATOR DOIT. I want to go on record as saying that I would NOT approve of any changes. Things are fine the way they are now and have been for a century!

ADMINISTRATOR AL. [To Trek.] This *is* a research university, you know.

TREK. Then those who are doing research and don't want to teach, shouldn't *have* to. Or if they want to teach and are bad at it, just *shouldn't*.

ADMINISTRATOR AL. If only that was a possibility. But operating a university is much more complex than merely complying with the wishes of the few.

[Homeless Person enters for free coffee and takes a seat at the bar. Bartender hands him a cup of coffee.]

HB. It's been beneficial for me to have a relationship with an advisor and meeting with them. I know that's usual, but it really does help to have someone take a vested interest in you. I would also like to see more interactions with faculty or an advisor type of person.

EMERIL. It really frustrates me that people don't seem to *want* to work together. I see people working for themselves instead of others, when working for others is what they're *supposed* to be doing.

EDWIN. I would like to see more living and learning opportunities for entering students to help them adjust better. And then find ways to maintain those ties throughout the time a student is here. That would really help!

ADMINISTRATOR AL. How could that possibly help? Employees come and employees leave. There's no guarantee that *anyone* will be here for any given length of time. Times

are tough! We must do all we can to stay funded and to bring in more research grants. We have to think in broad terms.

EDWIN. It would give students a greater sense of community and provide more opportunities to meet other students. This is a big place. You can easily get lost here—in more ways than one.

BOB. It would help if more teachers actually incorporated learning styles into their curriculum. It's not as though that stuff is new. I've had very few experiences where the professor actually applies that awareness.

PABLO. I'd like to be able to get more sleep! I'd be much happier. I've been sleep deprived all semester.

[All laugh.]

PABLO. I wasn't joking. I *am* sleep deprived.

STAGE MANAGER. [Offstage.] You might support the creation of an alternative learning community. Moreover, you might this university make the shift from a teaching paradigm to a learning paradigm. Help create a learning organization!

ADMINISTRATOR AL. [To Professor Clyde.] Who is that?

PROFESSOR CLYDE. Oh, he's just the Stage Manager.

ADMINISTRATOR AL. This university *is* a learning community.

STAGE MANAGER. [Offstage.] Technically speaking, yes. But we're not talking about the same thing. An alternative learning community is a place and space where students and faculty alike can experience engaged learning—a space for collaborative learning, self-directed learning, and experiential learning. Don't you read any of the literature on organizational change or new ways to learn? Haven't you talked with any of the students on campus who have experienced the benefits of it?

ADMINISTRATOR AL. Now, when would I have time for *that*? I spend *my* time finding ways to get students to enroll here. I spend *my* time . . .

STAGE MANAGER. [Offstage.] An alternative learning environment can be a place where students are engaged in exploring their passions—a place for stretch learning. It may also help with student retention.

WILLY. And a place for self-organization and emergence. Awesome!

ELIOT. Universities need to become more adaptive and receptive to changing systems. Since our society is a complex, adaptive system in a global society, this university needs to become complex and adaptive, as well.

ADMINISTER DOIT. And how might we accomplish that when we must accommodate the *thousands* of incoming freshmen each year. We have to give them a good education in a relatively short period of time. Ours is not a private, elite school where we can pick and choose.

ALEX. Yes, exactly like going to the bulk food section at the superstore. There are bins and bins of generic product (like many of our classes) with no eye toward quality. Lots come in and lots go out.

ELIOT. As an example, you need to promote multiculturalism and diversity.

ADMINISTER AL. We already do that. We host a large number of international students.

ELIOT. I mean in diversity in terms of diversity of ideas, and ways of knowing and ways of learning, not just in terms of gender, race, and ethnicity.

WILLY. Yes, and diversity also includes the kinds of students I met tonight, students who have different learning styles, desire to express their leadership ability, creativity, and critical thinking. They are NOT students who just want to be led, or pulled, around by the hand towards graduation.

ADMINISTRATOR DOIT. That is *not* the way I do business. We just need to get students out to make room for the entering freshmen.

WILLY. Then that doesn't support the expressed notion that this is a place for *learning*. The university, then, is just a place for *producing* students.

ADMINISTRATOR DOIT. [Getting angry.] Enough, young man! [Administrator Doit to audience.] Administrators are stressed out, too, you know. The State is pressuring us to cut costs, and we are forced to comply. We have to make cutbacks wherever we can. Tuition increases and having to make do with fewer faculty are problematic. We *have* to make room for new students.

PROFESSOR NEO. That may be true now, Doit, but that hasn't always been the case.

WILLY. I see myself in the students I talked with tonight. They have had to do a lot of adapting just to get by. Maybe I made a mistake in even applying to this university!

ADMINISTRATOR DOIT. So you're not even one of our students?

WILLY. Not yet.

EMERIL. There's a lot that can be changed without high cost. It costs nothing to change the way you *think* about learning. It costs nothing to encourage faculty to be creative in their teaching, and then reward them for it. It costs nothing to create space for self-organization in the curriculum. But if there was support for an alternative learning environment, all that would be possible.

HB. Like Eliot, I see a parallel between the country as a whole and the university. Education is not valued or highly questioned. The results are product-oriented.

ADMINISTRATOR DOIT. Education not valued? The degree is what gets you money, young man. As much as I dislike admitting it, there is not a lot of interest here in how engaged Joe Blow Undergraduate becomes in his classes, or how *happy* he is. What we have to worry about is creating a seat for Joe Blow Undergraduate to occupy once he's here.

HB. I'm not talking about education as a means to getting a job. I'm talking about education as a means to self-knowledge, for individual growth, and for passion in what you're learning. *That's* what we care about.

ADMINISTRATOR AL. Personally, I agree, but the issues are much more complex than that.

HB. I think it's time for a paradigm shift in what we value in society. Education seems to be out at some universities; education isn't as important as *producing students*. Even though I thought I might become a teacher, I see no incentive to even go into teaching.

STAGE MANAGER. [Offstage.] There are more than a few here who are on the verge of burnout or disengagement because of a sense of disconnect between their academic environment and their learning needs. It just does not have to be that way. Making changes to accommodate the 1%, and the diverse, is relatively easy.

ADMINISTRATOR AL. What about the rest of the students—the majority?

STAGE MANAGER. [Offstage.] Classes are generally set up for ESTJs. They're already attended to.

ADMINISTER DOIT. Explain, please.

STAGE MANAGER. [Offstage.] ESTJs are people with personality preferences of Extraversion, Sensing, Thinking, and Judging. ESTJs tend to be attracted to business careers. They are rewarded in higher education, as you may know. They tend to be product, not process oriented. They prefer talk with people, get the facts, make objective decision, come to a decision quickly, and then act on their decisions. A way to describe their worldviews and school experiences may be "Get in, get through, and get out."

ADMINISTRATOR AL. And that's bad?

STAGE MANAGER. [Offstage.] No. I'm simply saying that are other preferences for learning and other learning paradigms that are NOT acknowledged here. You *must* avoid the "student as product mentality."

ADMINISTRATOR AL. I don't know that that's been the case.

STAGE MANAGER. [Offstage.] Some students need a space that will invite, encourage, and support them as learners, a space for deep thoughts, expression, and engagement, one that provides space for their personal styles and personalities. We can encourage students to become engaged, but we cannot *force* them. And, if students are engaged, they are not as likely to drop out of school. Student retention may be one of the outcomes of this paradigm.

ADMINISTRATOR AL. That *does* make good business sense. But what we must focus on is the research—ours *is* research-based university.

BOB. As you've already pointed out.

PROFESSOR NEO. You mean we must cater to the people and organizations with the deep pockets instead of learning and students.

ADMINISTRATOR AL. Yes, one must be realistic. Research is what brings in the money and the notoriety. As DOIT says, it's not about how engaged Joe Blow Undergraduate feels in his classroom. Any other suggested changes?

WILLY. There *is* something else that students mentioned.

ADMINISTRATOR AL. What is that?

WILLY. Edwin and HB described their experiences when they took time off to learn and explore elsewhere. They told us that time away was a turning point in their academic careers and in their lives even. They embarked on what I see as a vision quest.

ADMINISTRATOR AL. Hmm . . . Vision quest—interesting idea. Time off *could* be built into the curriculum.

WILLY. Time for a vision quest could be built into a students' academic experience, or, at least the opportunity to experience a vision quest could be. If I were a student here, I would be very eager to do that. If that were a known practice, that option might motivate students to apply here.

EDWIN My explorations away from school changed me as a student. It also helped me decide to stay in school.

WILLY. I would like to be able to earn credits for taking time off. If I could get some credit for it and not be penalized for, it would be worthwhile. I think it should be

presented as an option, but not something that should be a requirement. If it's a requirement, it becomes inflexible, and then it doesn't personalize the path or the process.

ADMINISTRATOR AL Unlike an independent study, students might earn one to three credits for taking a semester to explore options and to learn about themselves.

ADMINISTRATOR DOIT. That is an intriguing business strategy. I think time away could be required or voluntary for those who want or need a break. That would free up faculty for other classes, or lighten the student load in particular classes. If students were exploring on their own elsewhere for a given period of time, we would have their space for someone else.

PROFESSOR NEO. That's a fine idea. Faculty go on sabbatical to rejuvenate, so why not students?

ADMINISTRATOR AL. Willy, you mentioned change at multiple levels. What do you mean?

WILLY. Well, change needs to occur at the individual level—with the individual level, with faculty, curriculum, with administrators and within the university, and at the community level. Outside the university, people could stop viewing students who burnout or dropout or just don't engage in school as "slackers."

[Homeless Person leans forward, intent on what Willy is saying.]

WILLY. Local businesses could get more involved in the university and do more in the way of offering more internships, could create more networks with students so students begin to have ties outside the university.

ADMINISTRATOR AL They already do some of that now.

WILLY. Then maybe they could do even more. Families could get more involved in their son's education. From what the students said, having a supportive family helped keep them in school.

ADMINISTRATOR DOIT. Say more about the individual level, more about what students need to do.

WILLY. Well, I think each student should take responsibility for his own learning. That means if things are not going well, he needs to talk to his professors, talk to the administrators, and to the president of the university, if necessary. They shouldn't just sit back and be miserable in their learning. They need to really speak up and insist that their learning needs are met.

ADMINISTRATOR AL. That's asking a lot, Willy.

WILLY. I heard some of the guys talk about learning communities that create spaces for self-directed learning, where students explore topics of interest, where they can be leaders, and where they can experiment with things in a safe space. Some of the guys said those communities were what kept them in school.

ADMINISTRATOR AL. Well, that would help with retention, I suppose. I'm not sure what else we could do.

HOMELESS PERSON. I have some ideas. *If* you are interested, of course.

[Administrators, Willy, and others look over at him.]

ADMINISTRATOR AL I don't think you would have anything . . .

WILLY. [To Homeless Person.] What are your ideas?

HOMELESS PERSON. You could begin by asking questions. Find out who is on your campus. Start with who is there. Talk to students. Find out what they want. Find out who is falling through the cracks at your big time university! Find out who is getting depressed and frustrated with the way you are doing things now and in the past.

ADMINISTRATOR AL. What did you say your name is? How do you know so much about life at the university?

HOMELESS PERSON. Let's just say I'm indigenous. [Laughs] I know things. Talk to your students. [To Willy] Get your buddies who aren't having such a hot time in college to talk to their professors, to other students, to the higher ups, and anyone else who will listen.

ADMINISTRATOR DOIT. [To Administrator Al.] What do students know? They're *students*, not professors.

HOMELESS PERSON. Students are the indigenous on campus. They have knowledge. They know what's happening with themselves and other students. They know what's not working and what is.

WILLY. Yes. If you want to find out about how students experience their academic journey, just ask them. They'll tell you, as long as you don't punish them for sharing.

ADMINISTRATOR AL. This conversation has really got me thinking. I think we do need to make some changes. Personally, I want school to be a meaningful and useful experience for all students, not just most.

ADMINISTRATOR DOIT. What more could we possible do that we haven't already tried?

PROFESSOR NEO. You could create spaces for dialogue, create times and places for people to come together to think and talk about higher education. And then begin to put into practice those new ways of thinking.

ADMINISTRATOR AL. All that takes time. I'll have to think about it. [To DOIT.] Let's bring this up at our next meeting. [To students.] It's been illuminating talking with you. [To Willy.] I hope you'll decide to embark on your learning journey with us here at Wharfton University. [They turn and walk across stage back to seats.]

WILLY. I'll see.

ADMINISTRATOR DOIT. [As he walks across stage, to Administrator Al.] Illuminating? Hardly a term I would use.

JOHN. That reminds me, I have a date. See you all later. [Puts money on table for beer. Exits through Passageway #4.]

BOB. [To group.] I have to go, too. I'll see everyone tomorrow morning. Don't forget! We agreed to meet at the site by 9 a.m. Here's my money for the beer. [Drops bills on table. Exits through Passageway #4.]

PROFESSOR CLYDE. I have to leave. I have another class to teach. You students don't know enough to know you have it pretty good here. [Stomps out through Passageway #2.]

[All other students get up and exit through Passageway #1.]

[Professor Neo returns to bar, sits down, picks up his glass in silence. Homeless Person turns back to his coffee, smiling to himself.]

Blackout.

Scene III

[Set: House and grounds in various stages of renovation. Short, low fence parallel to sidewalk, small tree in pot by Passageway #1, two sawhorses and a plank across top form table near Passageway #3. Two low, partial walls represent walls of house opposite side of stage as fence. HB and Alex stand by fence deciding how to affix slats. A small radio sits on the ground with a cord extending inside to kitchen plug. A kitchen sink on the floor by a wall representing the inside of the house. Trek enters from Passageway #1 and walks over to fence. Gets out hammer.]

TREK. Hey.

HB. What's up?

TREK. Sorry I'm late. I just got out of work.

HB. Work? I thought you only worked two days a week.

TREK. I had to get a second job. I decided I really wanted to stay in my apartment. Money, or lack thereof, is really getting to be a problem. Now I have *two* jobs and all my homework on top of it. It's frustrating. Hey, who's supervising this job today?

[Professors Clyde, Neo, and Marshall enter from Passageway #1 with disposable coffee cups in hand. They stop by tree to finish their coffee. They overhear the students' conversation.]

ALEX. One is our favorite professor from the bar. [Laughs.]

TREK. Great. Just what I need today—Alexander, the Great, or should I say, Clyde, the Great.

HB. It won't be so bad. The other guy is coming with him.

PROFESSOR CLYDE. [To Professor Neo.] Dimwits.

PROFESSOR NEO. [To Professor Clyde.] Now, Clyde. Try to get in the community spirit.

HB. You're lucky to have an apartment. It really frustrated me in the dorms to have no personal space and *no* privacy. I really disliked having no personal space.

TREK. That's exactly why I got an apartment.

HB: I was really glad to get into one.

ALEX. I think school in general is frustrating. What gets me is that there is no space for emergence. Classes are too linear, too hierarchical, and BORING!

TREK. Didn't we go through all that last night?

ALEX. Yes, but I've been thinking about it ever since.

PROFESSOR CLYDE. [To Professors Neo and Marshall.] When *I* was in school, stress was finding my own sexual identity! And that took a lot of looking. [Laughs.]

PROFESSOR NEO. Students aren't the only ones who are stressed out here. I can't teach the way I want to. I'd like to give students more freedom to learn what they want, but my higher ups say I can't do that. And going against the flow doesn't help you get tenured. I do what I can, but there is so much more that I could do! [Takes sip of coffee.]

PROFESSOR MARSHALL. I never worry about irrelevant concerns like that. We're here to teach, students are here to learn. That is all there *is* to *that*.

PROFESSOR CLYDE. Students are *such* a pain in the ass. I'm only here to do research. But I'm *forced* to teach. That's what stresses ME out! And I am *so* sick of students. All they do is complain. Mimicking students, "I don't like learning this way. I want more. This text was relevant thirty years ago, but not today! We want to think for ourselves." Think for themselves—what a laugh! They don't know enough to think for themselves! That's what I'm here for! I'll tell them all they need to know [pointing to himself]. *Then*, they can think for themselves.

HB. [Overhearing Professor Clyde. HB and Alex walk over to them. HB has a hammer in his hand.] Hi.

PROFESSOR CLYDE. Your day supervisors are here.

HB. I see. About what you were saying, the emphasis at this university *is* on research. You're hired to do research and if you don't produce, your job is in jeopardy.

PROFESSOR CLYDE. [To Professors Neo and Marshall.] Now here's a kid who gets it.

HB. There's no emphasis on teaching. If you're a bad teacher, but pump out your quota, you'll be ok.

PROFESSOR CLYDE. [Scowls at HB.]

ALEX. [To Trek.] I'm going to turn on the radio while we work. [Walks over to radio and turns knob.] Great. I can get only one station.

[A rerun of a conference presentation of three experts on creativity. Voices of Eliot as Expert #1), Willy as Expert #2, and Bill as Expert #3). Direct quotes from Cattell, Guilford, Taylor, and Cropley.]

STAGE MANAGER. [Offstage.] Welcome to the current conference on Children and Creativity: Is Creativity a Lost Art? Experts, what are your thoughts on children and the creative process?

Expert #1. Creative students are significantly more “skeptical, aloof, critical, withdrawn, disciplined, insightful, cautious, radical in terms of experimenting, being analytic, free-thinking and resourceful.”¹ They may be more “withdrawn, quiescent than noncreative students” and far superior in verbal skills. Remember, “fluency, flexibility, and originality.”² [Cattell]

Expert #2. There are three factors related to creativity: “tolerance of ambiguity, being willing to accept uncertainty, flexibility, and divergent thinking, where multiple solutions may emerge, instead of convergent thinking, where solutions funnel down to just one or two possible answers.”³ [Guilford]

Expert #3. We see now that children may only display creativity when they *want* to and when they feel *able* to.”⁴ “Creativity emerges from multiple or synthesized psychological characteristics including “expertise, creativity-related skills and abilities, motivation, and personal properties including self-confidence.”⁵ “Such characteristics are ‘easy to promote in schools, although school traditions and conventional classroom practice often make this more difficult than theory suggests.’”⁶

Expert #4. “One of the five levels of creativity is emergent creativity, and that prompts development of new principles or paradigms.”

Expert #3. [Cropley] We need to make some changes in the classroom. We need an approach where all aspects of teaching and teaching and learning stick to basic principles for fostering creativity, including “intellectual, personal, motivational, emotional, and social aspects of creativity. Children need contact with complexity, ambiguity, puzzling experiences, uncertainty, and imperfection.”⁷

PROFESSOR CLYDE. Just turn off that crap. Silence is better than that listening to *fluff!* [Sarcastically.] *Creativity!*

¹ Glover, J. A., Ronning, R. R, and Reynolds, C. R. (Eds.) (1989). Handbook of creativity: Perspectives on individual differences. New York: Plenum Press, p. 253.

² Ibid

³ Ibid.

⁴ Cropley, A. (1997). Fostering creativity in the classroom: General principles. In A. Cropley (Ed.) *The creativity research handbook: Volume one*. Cresskill, NJ: Hampton Press, 83-114.

⁵ Ibid. p. 89.

⁶ Ibid. p. 90.

⁷ Ibid. p. 107.

[ALEX turns down the radio, but doesn't turn it off.]

STAGE MANAGER. [Offstage.] There you have it. Children need spaces to learn; spaces for myriad emergent behaviors and actions, not just the ones that reinforce or perpetuate the boundaries set by authorities or tradition!

ALEX. I agree. We also need spaces where we can have the independence and privacy for innovative thinking, not just in the classroom, but also in places like the library, outside in nature, physical, emotional, and mental spaces for reflection.

PROFESSOR NEO. Given, that, students might become more engaged, have more internal motivation, if the university was more in turn to such creative, intelligent students. That just makes sense. [To Alex.] What do you think?

[Edwin, Bob, and Pablo enter from Passageway #3 and walks over to the group.] Hey, gang. I though you'd have this house renovated by now!

PROFESSOR MARSHALL. It's about time! You three come with me. I'm supervising the landscaping the backyard. [Turns and walks toward Passageway #2. Edwin, Bob, and follow behind.]

[Bill and Willy hurry in from Passageway #1.] Hi, everyone. [They walk past others and go to kitchen area and look at sink deciding how to install it.]

PROFESSOR CLYDE. Now that everyone is *finally* here, let's get to work.

[HB walks back to Alex, and Trek. Edwin, Bob, and Pablo walk over to fence.]

PROFESSOR CLYDE. Pick up your hammers. Let's do this in unison! We'll get this job done in no time! You stand next to each other, nail on the slat in unison, and then each take one step to the right.

TREK. Are you kidding us?

PROFESSOR CLYDE. No, I'm not kidding. We'll make a little production line here. Works every time!

[Alex, Trek, and HB grumble but pick up their hammers and each grab a slat to nail on the fence. They begin hammering randomly. Trek, in middle, holds his hammer with his left hand and gets in the way of the other students.]

PROFESSOR CLYDE. No, no, NO! This is not working. Trek, hold the hammer in your right hand!

TREK. But I'm left-handed.

PROFESSOR CLYDE. That's irrelevant! Everyone else is right-handed. Use your right hand!

TREK. But I can't work with my right hand like that!

PROFESSOR CLYDE. Do it the correct way! When you use your left-hand, you throw off everyone else! Adapt or get out!

TREK. I'll try. [Switches hammer to his right hand. To himself loudly.] He's not going to drive *me* out.

[Students keep stumbling over each other when they try to take one step to the side.]

PROFESSOR CLYDE. Stop! *Stop!* Can't you do *anything* right?

[Professor Marshall returns enters from Passageway #2, walking fast.]

PROFESSOR CLYDE. How's it going back there?

PROFESSOR MARSHALL. It's total chaos! Slackers! No one is accomplishing anything! They're moping around, throwing dirt everywhere, but nowhere in particular. They're not doing what they're *supposed* to be doing! They act like they don't even want to *be* here and *they're* the ones who volunteered for this project! I give up. I have other projects that I *want* to work on, and this is *not* one of them! [Exits through Passageway #3.]

PROFESSOR CLYDE. I'll go back and get them on the right track. Carry on.

[Bob, Pablo, and Edwin enter from Passageway #2 and walk over to Alex, Trek, HB, and Professor Clyde.]

PROFESSOR CLYDE. What is the problem?

BOB. This is just not working.

PROFESSOR CLYDE. No, you mean *you're* not working.

BOB. That's NOT what I mean!

PROFESSOR CLYDE. Did you forget the fact that you're all volunteers today?

BOB. I did volunteer to work, but on a job that interests me. I'd much rather work on building the fence.

[HB, Trek, and Alex stop hammering and look up.]

EDWIN. I volunteered, but I wanted to work on re-designing the fence. This design [motioning to the fence area] just doesn't fit with the lay of the land.

ALEX. I want to get some experience plumbing. I want to help install the sink.

TREK. I want to do landscaping. That's my area of expertise.

PABLO. I wanted to work on creating a recycling area in the house.

PROFESSOR CLYDE. Did you all forget who is the supervisor today?

TREK. [To Professor Clyde.] Let's talk about that. We really don't need a supervisor. We each need to work on what interests us. If you know something about one of these areas, we could work together and pool our knowledge.

[Bill and Willy walk over from kitchen area.]

EDWIN. Yes. That way everyone is working on something he wants to work on, and we could figure out how to do things together. We don't need, or want, a boss telling us every move to make and doing something we don't want to do at a time we don't want to do it. One person could take the lead in the area his is working, but still work with everyone else. What about it?

PROFESSOR CLYDE. I don't like the idea. [Pauses.] Well, I *suppose* we could try it. My blood pressure is high enough already. But I know we won't get as much done.

TREK. Bill, what do you want to work on?

BILL I'll help Bob build the fence.

TREK. Willy, what about you?

WILLY. Since I know nothing about building a house, I'd like to do a little bit in all of the areas. That way I could get some experience doing everything.

TREK. Ok. Here's what we have: Edwin is going to re-design the fence, Bill and Bob are going to build it, Pablo is going to design a recycling area, Alex is going to install the kitchen sink, I'm going to work on the landscaping in the back yard, and Willy is going to be a floater. What do you want to work on, Professor?

PROFESSOR CLYDE. I've always been interested in landscaping and nature, but I've never had a chance to do that. That might prove to be interesting.

TREK. Let's go then.

PROFESSOR CLYDE. You know, I think I underestimated the importance of the interaction between students and professors.

TREK. Yes, you do have impact, and hopefully, it is a *positive* impact.

[They exit through Passageway #2 to backyard.]

[Emeril and Eliot enter from Passageway #1. Emeril carries bags of food.] Hey, what's up? [He sets the food on the makeshift picnic table.] Here's my contribution—I grilled some sandwiches. I can't stay, though.

ALEX. Great! [Walks over, opens the bag, and takes out a sandwich, and begins to eat.] [To Eliot.] We've just had a huge reorganization in what we're doing here. What do you want to work on?

ELIOT. I came to see what was going on. I'm writing an article about this entire project and what it means to the community. I'll be around to each one of you to see why you volunteered to work on this house.

ALEX: Why can't classes be conducted like this? Why can't we have a learning environment that is loosely-structured, self-directed, where we're each working on something that is of interest to us. I just don't get it.

[All continue working for one minute, and then all exit through Passageway #1.]

[Willy enters through Passageway #2 and walks over to bench. Willy sits on bench by Passageway #4 reading the local university newspaper and reads headlines aloud.]
“RESEARCH FINDINGS IN FROM STUDY OF DISAFFECTED MALE UNDERGRADUATES.”

WILLY. [Loudly.] Privileged. Yeah, if they really wanted to study someone, they could study *me*. I haven't even been able to *get in* school yet! The Gleick stuff really describes my life and me.

[Canshe enters from Passageway #1 to catch a ride home with Willy.]

CANSHE. [Calling.] Willy? Ready to leave? [Bill and Trek enter from Passageway #2 and walk over to Willy and Canshe.]

WILLY. Hi, Mom. Yes, we're finished for today. Most of the others have already gone home. [To Bill and Trek.] Do you want a ride home?

BILL. No, we're good.

CANSHE. Do you want to stop somewhere for coffee? I could sure use a latte. There must be one close by that's still open.

WILLY. Yes. That sounds really good. I know of one that is always open.

[They all exit through Passageway #4. They pass Female Jogger who enters from Passageway #4. She jogs over by bench, pausing to catch her breath. She notices the newspaper lying on it.

FEMALE JOGGER. [Reading headlines aloud.] “RESEARCH FINDINGS IN FROM STUDY OF DISAFFECTED MALE UNDERGRADUATES.” Someone is studying a group of privileged white males?” What a waste of my tax dollars!

[Throws paper back down on bench and continues jogging across stage and exits through Passageway #1.]

Blackout

Epilogue

[Lights brighten over opposite area of stage. Same place Willy had been the day before. Canshe and Willy walk over to an empty table. Bartender walks over and hands them drink and returns to behind the bar.]

CANSHE. Well, Willy. Just what did you learn from the all that?

WILLY. I feel like my worldviews are like those clouds—forming, reforming—always changing.

CANSHE. *That's* quite an insight. [Takes a sip of latte.]

WILLY. [Takes a sip of his drink] Wow, this is hot! [Puts it on table.] Yes. I also see that the university is a complex system. Each one of us is a complex system that's embedded in complex systems, in fact.

CANSHE. [Dryly.] I have never thought of it that way before, Willy. But then, I have never applied chaos, complexity or dynamic systems theory to human behavior before, either. In fact, I have never applied the theories of chaos, complexity, and dynamic systems to *anything* because I just don't think in those terms.

WILLY. It's ok, Mom. Most people don't.

CANSHE. What a surprise!

WILLY. But they all still apply to our everyday lives.

CANSHE. What else did you notice?

WILLY. I also see some disillusioned students who are struggling to create something meaningful out of their university experience. Some of them might even drop out because it is so stressful and meaningless to them here.

CANSHE. It's their own fault. If they'd just go with the flow and quit complaining, they'd be ok. Some of them are just troublemakers.

WILLY. Mom, you don't really feel that way, do you? Just because some students prefer to learn in ways other than the mainstream way, doesn't make them "slackers." Or "troublemakers." Or "whiners." It makes them students who aren't getting what they need from a university that the taxpayers fund! A university that is supposed to be an environment where *everyone learns*, not just a place where a few just *teach*, or the *mainstream thinkers* just learn.

CANSHE. Whoa, Willy. I had no idea that this play would have such an effect on you!

WILLY. Well, it did. I see things a lot differently now.

CANSHE. What things?

WILLY. I see that I have a responsibility to myself as a student and to everyone else to stand up and talk about what is it that I need to learn.

[Bill and Trek enter coffee shop through Passageway #1 looking for Willy.]

BILL. Hey, Willy. Hello, again, Mrs. Fixem.

TREK. Hi.

CANSHE. [To both.] Hi.

BILL. [To Willy.] I just wanted to thank you for being here, Willy. This has been a really good experience. It's helped a lot. It's been good to talk about some of these things—I don't share personal things very often.

WILLY. This has helped me too. It's really opened my eyes to some of the ways of thinking in higher education.

BILL. Your coming to the play has really changed events. Your being here and your role in the play prompted events that may even change how things are done here at Wharfton, on a large scale. Your being here has prompted all of us to talk about all our frustrations, disillusionments, and stressor here on campus. That probably wouldn't have happened otherwise. In fact, I *know* it wouldn't have happened. Everything would have just stayed in equilibrium.

WILLY. Hey. Equilibrium. Good for you. Do you really think so?

BILL. Yes. Just look at how everyone is talking. Students are reflecting on their own experiences, they are talking with other students, with their professors. Administrators are talking to each other, to the professors, and to us. Family and community members are getting involved. That's a first step in change. Next, we need to start taking action, individually, and collectively.

WILLY. Wow. I did all that? [Pauses.] Well, it is order emerging out of chaos, sort of.

TREK. I'm going to start writing and visiting the President's office here on campus. My face will be familiar to a lot more people around here.

BILL. I hope I see you around campus, if all this hasn't totally crushed your motivation to even enroll here, or at any other university, for that matter. See you.

WILLY. See you.

[Trek and Bill exit through Passageway #1.]

WILLY. [To Canshe.] Well, I really do see things differently now.

CANSHE. What do you mean, Willy?

WILLY. I'm not certain if I even *want* to go right from high school to college. I think I may take some time off to explore, to visit places I've always wanted to visit. I'm open to whatever emerges.

CANSHE. [Taken aback.] Willy, you can't be serious! You *have* to go to college! You know that. Don't let what those students told you scare you off.

WILLY. Yes, I am serious. I'm just not sure now that I want to jump right into college the experience. They didn't scare me off, Mom. I feel that I know enough now to actually make a *choice* I feel that I have more options now. Before I talked with them, I just blindly applied to school without much thought. There's a big difference!

CANSHE. Things may seem strange and different to you now, but you'll get used to school.

WILLY. That's just it, Mom. I don't know that I want to *have* to get used to school. I want to be in a learning environment where I feel that I fit in, where I can be creative, where learning is meaningful. I know there is going to be a period of transition anywhere I go, but the transition has to be into something that feels natural, not alien, to me.

CANSHE. Willy, I don't know what to say.

WILLY. I have to make the final decision, Mom.

CANSHE. I guess do. [Finishing coffee.] Well, are you ready to go?

WILLY. Yes. I'm ready now.

[They rise and exit through Passageway #1.]

Blackout.

THE END

CAST OF CHARACTERS

STAGE MANAGER.	Sayit-Doit Out
WILLY MAKET	College applicant (INFP)
CANSHE FIXEM	Willy's Mother, divorced, an associate professor at the University of Wharfton
DEEP LOUD VOICE	Voice of Past Negative Experiences

UNDERGRADUATE MALES

BILL	Senior-Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
ELIOT	Sophomore, Introverted, Intuitive, Thinking, Perceiving (INTP-1% of general population)
BOB	Senior, Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
ALEX	Sophomore, Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
EDWIN.	Senior, Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
TREK.	Senior, Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
EMERIL.	Senior, Extraverted, Intuitive, Thinking, Perceiving (ENTP 3-5% of general population)
PABLO.	Junior, Introverted, Intuitive, Feeling, Perceiving (INFP-1% of general population)
JOHN	Senior, Extraverted, Sensing, Thinking, Judging (ESTJ-14% of general male population)

PROFESSORS:

PROFESSOR CLYDE	Ready to retire, burned out professor
PROFESSOR NEO	Experienced professor with innovative ideas and practices. Willing to learn.

PROFESSOR MARSHALL Assistant Professor. Desires to prepare students for competitive job market.

COMMUNITY MEMBERS

ELDERLY MAN

ELDERLY WOMAN

HOMELESS PERSON

WOMAN #1

MAN #1

FEMALE JOGGER

ADMINISTRATORS

ADMINISTRATOR AL WEISS DUNITHATWAY

ADMINISTRATOR DOIT MIWAY

Theories by.

Chaos and complexity theory by Abraham & Gilgen, Abraham & Shaw, Bak, Briggs & Peat, Butz, Butz, Chamberlain & McCown, Capra, Carr-Chellman, Chamberlain, Coveney & Highfield, Cutright, Doll, Elliott & Kiel, Engler, Geert, Geyer & van der Zouwen, Goldstein, Gollub & Solomon, Gleick, Goerner, Goff, Gray, Hawkins, Heylighen, Hock, Holland, Iannone, Kauffman, Keller, Kellert, Kelly, Kelso, King, Krasner, Laszlo, Maturana, Maturana, Varela & Uribe, Masterpasqua & Perna, Matthews, White, & Long, Merry, Peat, Peck & Carr, Prigogine & Stenger, Reeves, Russ, Sanders, Stacy, Strogatz, Taylor, von Bertalanffy, van Eenwyk, Waldrop, Wheatley, Woog & Kuhn, Youngblood, Zohar, Zohar & Marshall,

Dynamic systems. by Bronfenbrenner, Garbarino, Grant & Dooley, Obiakor, Ryan

Psychology by Aiken, Briggs-Myers, Cattell, Ceulemans, Westenberg, & van Praag, Copley, Csikszentmihalyi, Eysenck, Fisher & Cooper, Fitzgerald & Kirby, Frank, Glover, Ronning, & Reynolds, Goldstein, Goleman, Gotlib & Hammen, Harris, Hirsh, & Kummerow, Guilford, Hoyenga & Hoyenga, Janicki & Helgeson, Judge, Jung, Keirse, Kelly, Lazarus & Launier, Mandler, Maslow, Pearman, Rogers, Runco, Seagal, Tamres, Torff & Sternberg, Thompson, Varela & Shear, Weintraub, Wikan, Winter

Education by Barr & Tagg, Bawden, Baxter-Magolda, Bruner, Dewey, Diener & LeDoux, Dweck, Edwards, Fear, Festinger, Freire, Gardner, Habermas, Hart, hooks, Halpern, Jensen, Jonassen & Land, Kuhlman, LeDoux, Marton and Säljö, McKeachie, McWilliam, Meyerson, Mezirow, Morgan, Noddings, Noddings & Shore, O'Sullivan, Palmer, Robinson & Kakela, Samples, Steptoe, Sternberg, Sylwester, Tagg, Taylor, Wolfe.

Nature by Kellert & Wilson

Alternative learning environments by Baxter-Magolda,

Qualitative Methodology by Davis, Denzin & Lincoln, Geertz, Guba, Gubrium & Holstein, Hesse, Kvale, Lathy, Lincoln & Guba, Patton, Polkinghorne, Price, Richardson, Ricouer, Schwandt, Schwartz & Ogilvy, Stake, Thorp, Wolcott.

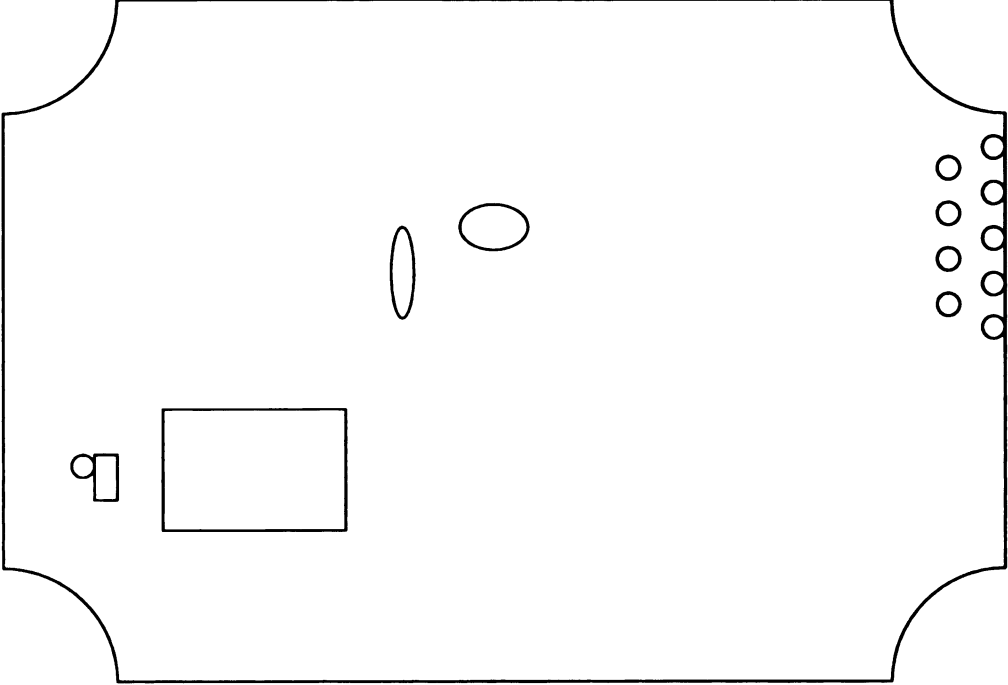
Raising Boys by Davis, Goldberg, Levine, Newberger, Pollack, Sumara & Luce-Kapler

Art and Literature by Blake, Escher, Keats, Plath, Poe, Shakespeare, Waterhouse, Woolf

Set: Scene I

Passageway #1

Passageway #2



Stage

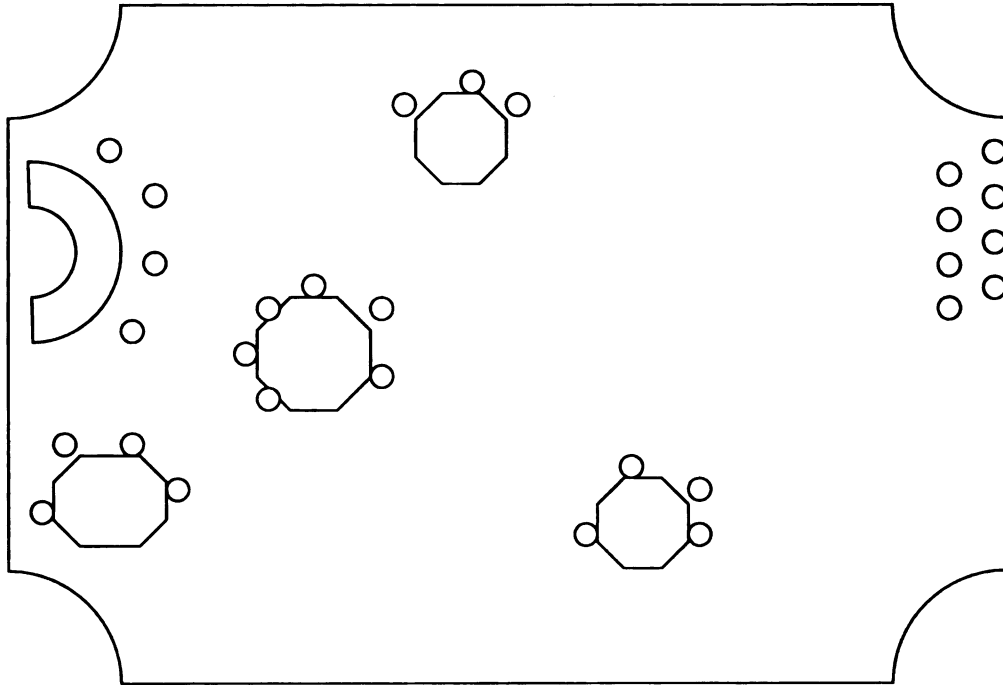
Passageway #3

Passageway #4

Set: Scene II

Passageway #1

Passageway #2



Stage

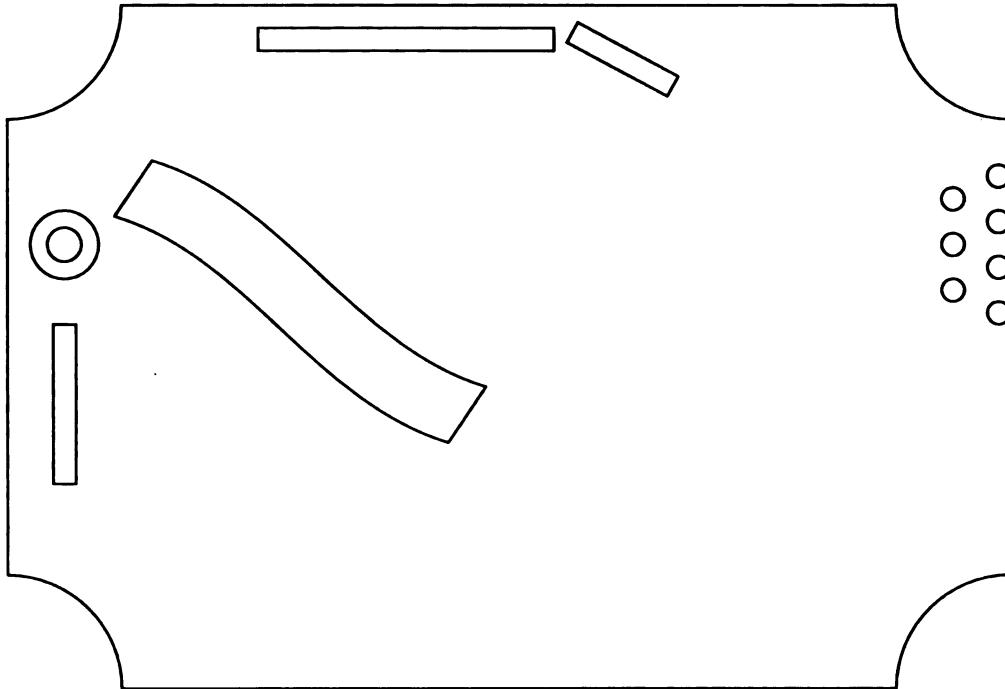
Passageway #3

Passageway #4

Set: Scene III

Passageway #1

Passageway #2



Stage

Passageway #3

Passageway #4

ADDENDUM TO CHAPTER FOUR:

FINDINGS

The cosmos is one and interrelated;
any society is one and interrelated;
any person is one and interrelated.
Abraham Maslow, 1970

We shall not cease from exploring, and the end of our exploring
will be to arrive where we started and know the place for the first time.
T. S. Eliot

Participants

All eight participants in this study presented themselves as holistic, systems thinkers, reflective, relational and conceptual, deep, and critical thinkers, intelligent, flexible, and strongly principled. All preferred emergence, were process-oriented, quiet leaders, and creative. In coping strategies, they were non-confrontational; they preferred to withdraw rather than confront others. They cared deeply about the process of learning, and they preferred experiential, hands-on, applied, self-directed learning in a safe environment.

The participants all had supportive families, friends, and faculty (without such support, may have dropped out of school). They wanted meaningful relationships with faculty and advisors, and had concluded that higher education encourages and regards shallow learning rather than deep learning. They wanted learning that was personally meaningful. They wanted to share their concerns—they wanted to talk and they wanted someone to listen.

All had the same or similar personality preferences: six of eight had personality preferences of INFP, and the other two INTP and ENTP. Six of eight had very clear to

clear preferences for Intuition.¹ All eight had NP preferences in common. Six of eight had personality preferences shared by only one percent of the general population, and one of eight had personality preferences shared by three to five percent of the general population.

All experienced frustration and disillusionment with their academic environment—their classes, their professors, their learning environment—felt forced to adapt, felt different from other students, and found it difficult to engage and to stay motivated. They had become disaffected.

As they spoke about their academic journeys, four explicitly stated and four implied that they distinguished engaged and joyful learning from academic success. That revelation is at the heart of the problem for those concerned with engaged learning, and is the emerging order in their complex academic world. Learning for the grade is shallow learning, not the deep, meaningful learning that is necessary for student engagement, especially for INFP and INTP learners.

Disaffected male undergraduates in this study reported that they engage more when:

- Professors are enthusiastic, care about and respect students, value students' knowledge and experience, and use multiple approaches to teaching.
- Professors know their field and are willing to give up control in the classroom.
- They are not forced to respond in class before they are ready (especially Introverts.)

¹ As identified by the Myers-Briggs Type Indicator and verified by each participant

- They have interactive, experiential learning opportunities—where learning extended beyond the classroom and beyond the professor.
- They have space for self-organization and emergence.
- They have a say in what they learn and how they learn it.
- They are challenged, but not crushed, either intellectually or emotionally.
- They have a safe and open space to explore—space for creativity and critical thinking.
- Their emotional connections to issues are acknowledged and respected.
- There is a synthesis of people, place, space, attitude, and atmosphere.
- Class content is personally meaningful and applicable.

Their Stories

People are different—intellectually, emotionally, biologically, psychologically, socially, and culturally. And people behave in different ways in different contexts and situations—they “think, feel, and do different things in different situations” (Shoda, 2004, p. 117). Each person is part a dynamic system embedded in a dynamic system; each is a “a distinctive social information *system* that dynamically interacts with . . . situations, and generates thoughts, feelings, and behaviors” (Shoda, p.134). Individuals respond to their contexts, take information from the environment, and use that information to make necessary adjustments in their behavior to adapt to the environment. Disaffected male undergraduates make the decision to adapt or not adapt depending on the level of their disaffection, the strength of their desire for deep learning, and extenuating circumstances. Refusal to adapt is one way of responding to environment and context. The process of not adapting may be a bifurcation point, a point of emerging order in students’ lives.

Adapting merely to survive one's academic experience is a submission to subtle academic coercion.

In order to understand such refusal to submit, and the multiple motivations that contribute to it, an investigator must consider the everyday contexts and situations of the subjects' lives and their psychological responses to those contexts and situations. Without knowing the subjects' perceptions of those events, an investigator cannot arrive at true understanding. As Shoda states, "situations need to be understood at the level of their *psychological features*, rather than at the *nominal* level" (p. 135).² To learn more about an individual's everyday behavior, it becomes "necessary to understand what it was about the situation that made each person respond in his or her characteristic manner" (Shoda, p.135). In other words, if we notice everyday relationships and interchanges within and among contexts and situations, we may gain a better understanding of how individuals process information and cope with uncertainty, stress, ambiguity, and change. We also learn more about the systems in which individuals are embedded.

Subtle or striking, the findings are all important: to the individuals who shared their lived experiences and to their university. All have implications for higher education. Representative quotes by the participants demonstrate findings.

Findings

This write-up of findings is an Addendum to Chapter Four: Findings: "Looking Into Chaos: A Play In Three Scenes."

² Shoda (2004) cites Shoda, Y, Mischel, W., & Wright, J. C. (1994). Intra-individual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality *Journal of Personality and Social Psychology*. 67, 674-687.

Two major themes were the students' frustration and disillusionment. This sub-set of male undergraduates was or had been frustrated or disillusioned with their university experiences. Respondents talked about being "stressed out" and "frustrated" at some point in their academic career. They had experienced dissonance, even turbulence, either recently or in the near past, from internal stressors and stressors thrust upon them by their environment or interactions with others.

Participants also expressed varied and multiple frustrations. Along with their sense of frustration were feelings of having little power to shape and control their own academic lives, feelings of being different or of not fitting in, a sense of being overwhelmed with responsibilities, and a sense of disdain for the processes of higher education, but not about learning. All were eager to learn.

Dissatisfaction and disillusionment resulted from feelings of having an environment and context intermittently thrust upon them with rigid, hierarchical boundaries of the structure of the university, with insufficient interaction, and little opportunity to express creativity. Participants disliked having to take required classes and saw them as having little applicable value and of little interest. Participants preferred professors who were enthusiastic in their teaching styles and in their worldviews, and were frustrated by those who were not.

Feelings of Frustration and Disillusionment

"Well, I'm going to start with what jumps out at me."

What jumped out at this participant was the word "frustration" in the first question of Interview #1. He began to talk about frustrations associated with his

university experiences. Frustration and disillusionment were the two most mentioned or implied concerns in this study: participants made it clear that they were frustrated and have been disillusioned with their experiences in higher education. Six of the eight respondents began our conversation with the word “frustrations,” and each described what his current or past frustrations were even though the first part of the first question asked for descriptions of “current conditions, experiences, interactions, and relationships ” (see Appendix D). The word “frustrations” was situated last in the sentence, but students chose to comment on their “frustrations” first before they talked about any of the other items. Two of the eight respondents talked about frustrations shortly after they got comfortable with the interview process. Mainly their professors and their classes frustrated participants. They were especially dissatisfied with certain teaching approaches and styles that were not relational, interactive, creative, or challenging. They especially disliked required classes, classes that were not interactive, too structured, and threatening. Students were also dissatisfied with the prevailing academic environments. They mentioned, “disdain for the education system in general” and the system’s “superficial, socially constructed meaning.” They felt forced to adapt, and different from other students. Their experiences conflicted with their values, and one had issues of self-identity regarding sexual orientation. Participants were disillusioned by the gap between their expectations of university experiences and their actual university experiences. Their “unmet expectations” sometimes led to “lack of motivation.”

Their Classes

Participants described being frustrated over being forced to take required courses: “I guess I’ve got another frustration, kind of, by the classes I *have* to take.” They found required classes to be disappointing, disconnected, and meaningless because there was no direct connection to their own interests, no applicability to the real world, and “a waste of time.” They explained that required courses present experiences “not relevant to your life,” and knowledge they could not apply in a personally meaningful way.

One participant complained that there was no underlying connection among his required classes:

It’s a little bit frustrating. This is the first semester I’m taking required classes . . . classes are all over the place. They don’t relate to one another.

Another participant felt there to be no connection to his interests or application in his required classes.

Actually, I find it disappointing to have to take all the University [required] courses. I don’t see any connection between what I’m learning and my future. Not a waste of time, but I don’t get any value from it. I’m just learning it because I have to. I don’t think it’s worth my time, but it’s a requirement, so I just take them.

Participants preferred to learn in classes that were interactive and dynamic, taught by professors who were excited about teaching.

Their Professors

Professors impact their students by what they say, in how they teach, and how they relate to their students. Participants wanted to take classes with professors:

- Who are enthusiastic about teaching

- Who are interested and engaged in the subject matter
- Who are creative in designing class
- Who care about their students
- Who encourage creativity and critical thinking in the classroom
- Who acknowledged and encourage students' knowledge and voice

Participants also preferred to learn in a small class setting that was interactive, dynamic. They wanted administrators to prefer faculty members who do “not teach here just because they have a grant or bring in grants and teaching is their side job. I mean have people who are really interested in students.”

One participant wittily described his experience with one of his professors. Although he spoke with humor, the participant conveyed an underlying sense of powerlessness:

The worst teacher I ever had [who] crossed my path [was] during my third year of college. And, unfortunately, we crossed paths every Monday, Wednesday, and Friday. Why was he so bad at teaching and so damn good at glazing over the eyes of nearly 250 students three times a week? Simple: lack of passion. Pizzaz, zip, drive, oomph, personality, whatever you call it he must've been absent on the day it was dealt out. In a voice like a soggy saltine cracker he would read word for word the power point slides so carefully constructed to teach us about microeconomics. Mono-tone-teaching-is-the-worst-thing-about-learning-in-a-lecture-setting. I'm not sure if there is anything I can do to adapt to this style of teaching

Another participant divulged that he stayed in one class because it was fun, different, with loose boundaries. He said:

I kept [name of professor]'s class because I really enjoy it. It's fun, always different. He is so open and loose about how to do assignments . . .wry and clever, sarcastic and self-deprecating, refreshing . . .doesn't take himself too seriously.

Students wanted their knowledge validated and acknowledged by their professors. As one participant stated: “Prof’s don’t give students enough credit. They think students don’t know anything. Maybe we do know in some cases.”

Disillusioned by the Academy

In addition to being frustrated, participants were also disillusioned by the university. What they expected before they came to the university and what they experienced after they arrived were different. Participants expected college to be a place where people cared about the process of learning and each other, critical thinking, and deep learning, but what they perceived and experienced was ambivalence, and a sense of student as product.

When their expectations were not met in their actual experiences, some participants become disillusioned and disaffected. One participant expected to find others who cared about learning and in creating community. Instead, he admitted:

When I first started taking classes, I had this idealized image of what it would be like—people caring about intellectual pursuits and each other, caring about community. I haven’t seen anything like community in the student body at all, aside from [name of learning community]. I saw that as a community.

Although he failed to find community on campus as a whole, he managed to find a sense of community in a learning community on campus.

Another participant described his disappointment with the attitudes of his peers and his professors, given his propensity for deep learning, creativity, and interaction:

It seemed like nobody really cared about learning anything. They just cared about getting the grade. I felt like a lot of teachers, instead of

encouraging students to care and to think for themselves, it was a lot easier to pander to the grade mentality. It's "Memorize this, memorize that, do this, get an A."

Impact of Frustrations

Their frustrations and resulting dissonance compounded as participants progressed through school to the point where many participants became depressed, disengaged, unmotivated, and burned out. In response to the second part of Question 1, Interview #1, about how things have changed since coming to this university, one participant said:

It's different in that I'm probably *more* frustrated. I guess I really, *really*, don't like school. I don't like it at all. It's a way of perpetuating the class system. It's a piece of paper you buy for a resume. I always figure it's just something to work through and do it to get a better job. But, it's been difficult for me to go to classes consistently and focus on the assignments

Their frustrations had both positive and negative impacts on students. For one, being frustrated and staying motivated went hand in hand. He said, "It's frustrating in school. I'm dealing with motivation issues and trying to find...trying to do my work and getting done." Another participant described being "burned out," from not being able to learn what he wanted to learn:

I got burned out during the third year . . . I just had a passion. Very frustrated with what I wanted to learn. I wanted to change—to find a way to make things change, to ease the frustrations. Now, it's the same thing

Desire for an Alternative Learning Space

Some participants became frustrated when they became involved in a learning community because that experience further *emphasized the disparity*

between how they *wanted* to learn and how they *actually* learned in their traditional classes. As for the frog in a pot of boiling water, little annoyances, dissatisfactions, and disappointments with the academic process may accumulate and go unnoticed until they boil. One participant commented:

It's a culmination of little things, not any great epiphany. It was all building up. [Name of learning community] contributed, not in a negative way, but it showed me what learning really is. I'm learning a lot more. It's powerful. It further pulled me from normal college students. Hopefully they're happy learning the traditional way. I'm not satisfied doing it.

One participant, disillusioned with his university experiences, became unable to engage, found little academic challenge, and nothing that sparked his interest. He said:

I guess I haven't really had anything that attracts me to academics. I guess I really haven't had an academic journey yet. I guess, I really haven't attached myself to . . . I don't know how to respond to it. It's been more like an external factor than anything really driving my life. Yeah, I guess it's kind of ugly about me, but I've never really tried at anything in school.

When asked why, he replied,

I don't know. I have a feeling that the reasons are more complex than I know. I could say I haven't been interested or really challenged, but to be honest with you, I really don't know.

Disillusionment prompted one student to change majors in hopes of finding something personally meaningful:

I had this rosy picture of college when I first started of how things would be, but that changed. Once I started to get a sense of what kind of options I had, I stuck with it, hoping it would turn out differently. I guess it's more important to do something I like rather than staying with something until I have too much invested in it. Get out before it's over my head.

Stressors: Psychological, Environmental, and Physical

Participants described psychological, environmental, and physical stressors in their lives. In addition to professors, classes, and disillusionments described above, stressors include no privacy, being forced to speak in class, transitioning out of school, other students who are depressed, feelings about issues not respected, and lack of sleep.

STRESSORS	REPRESENTATIVE QUOTES
No privacy	When I was in the dorm room, I had no privacy. Just sharing a room with another person is a problem. The biggest issue was privacy. It was hard for me to study. I'm now diagnosed with ADD. If I don't have my own space, it's hard for me to study.
Being forced to speak in class	Being forced to speak in class, when the professor depends on you to contribute when you don't want to. If you speak up on the first day you're expected almost to speak up throughout the rest of the class—because people see that you are willing to. So a professor might look to you because you speak up when there's dead times in the class. I'm just like, "I just want to sit here today. Just leave me alone. I don't have an opinion. I don't always have an opinion about everything." So, it's that frustration.
Transitioning out of school	What concerns me about graduating is just about everything: How am I going to make it, how am I going to live? What will happen to my relationships with family, my girlfriend? Looking ahead [after graduation] is a big transition. I've tried not to think about it too much. That's a little bit of stress going on in the next stage.
Other students who are depressed	Students who are depressed: they assume college is hard work. They fall into the idea that that's normal to be depressed—it's just a means to the end. During that time, they might develop habits that carry through that are not good.
Feelings About Issues Not Respected	Felt must mask real feelings in order to fit in and to maintain a positive outward appearance in fear of how others perceived him
Lack of Sleep	I don't have time to do things like I did in high school. I take a nap when I can. In the day, all I really want to do is sleep.

Table 3-List of Stressors

Coping With Stress and Dissonance

Their strategies for coping with stress and dissonance differed slightly, but most participants had in common the strategy of withdrawing from school for a

period of time to do a variety of things: One participant attended classes at a university in another state for a period of time. Another left his university and moved to another state to study but moved back due to a traumatic experience. A third left school to travel, taking a kind of vision quest. A fourth left school to pursue his interest outside the formal classroom and has not yet returned, and a fifth participant left school to study at a smaller school and to pursue his creative interests. He said, "I thought about dropping out. My dad suggested I take a semester off and get a non-college job. Maybe I'll try something different." Their taking time away resulted in emerging order in their lives; time away provided them space to self-organize.

The other three participants coped with stress through involvement with various university and community organizations, exploring ways to express their creativity, and finding opportunities to practice their leadership abilities. One of the three who did not leave school thought about it, and considered it a way to explore his interests. He speculated,

Maybe if I spent a year off, I probably would have an opportunity to at least explore some of my interest. Or, maybe it would be a bad decision because once you start earning money, it robs, I mean, blurs your vision.

Interesting coping strategies included denial and creative activities.

Although females may "tend and befriend" when they are stressed, males "do not talk." As one participant shared, "for me, guys don't open up about things. They don't talk much." Males may also even deny the existence of stress, even the same ones who say they adapt to it: "I don't believe in stress. I don't dwell on it." Instead, some participants cope with stress by engaging in creative activities.

Some participants mentioned food as a coping strategy—cooking it, growing it, and eating it. They also described writing, photography, walking in nature, playing sports, traveling, and listening to music. Participants said they enjoyed writing fiction and poetry. One person said: “I write poetry about how I feel. If I’m depressed, I have a tendency to write. I don’t want to collect them. It’s a way to calm my nerves down.”

Coping strategies included taking time away, talking with people or being around familiar people, denial, withdrawing, not adapting, adapting, being loyal to values, recreating successful experiences, finding privacy, being creative, understanding others’ perspectives, gaining confidence, listening to self and trusting intuition, and finding own comfort zone.

COPING STRATEGIES	EXAMPLES
Taking time away	Traveling to rejuvenate Withdrawing from school Studying elsewhere
Talking with people, being around familiar people	Just being there and having familiar people around. I talk to people. I’ve done a lot of introspection, but I’ve also relied on my social group and my support network. That’s good, because I don’t have to pay a therapist.
Denial	I don’t believe in stress. I don’t dwell on it. Stress is just a made-up social concept, I think
Withdrawing	I get away by myself for a while.
Not adapting	I haven’t adapted. That kind of worries me about human nature—people just accepting ideas without question. It’s kind of dangerous, I think. I haven’t done anything different than I’ve always done. I’ve never adapted.
Adapting	Even before I came to the university, I’ve always adapted to change. It’s what I did growing up.
Being loyal to values	I’m loyal to my values. Throughout my whole life, I’ve searched to understand people. Not changing would be more traumatic than doing new stuff.
Recreating Successful	While I’m successful, I try to recreate these experiences. It’s not so much learning from mistakes, it’s learning

Experiences	from success.
Introspection	Reflection
Finding Privacy	Finding privacy. That's a big part of adapting
Being creative	Writing essays and poetry, cooking and creating recipes, traveling
Understanding others' perspectives	Understand other's perspectives, see where others are coming from, so I don't get bent out of shape. When I came here, it was "My way or the highway." It took a lot of self-actualizing in understanding how I can understand others and how they see me. Not changing really, but allowing myself to see their way.
Gaining confidence	I've gained confidence.
Listen to self, trust intuition	I listen to myself and am learning to trust my intuition.
Finding own comfort zone	I try to find my comfort zone, and where I can grow at my own rate.

Table 4-Coping Strategies

Similar Personality Preferences and Temperaments

An intriguing discovery of this study of disaffected male undergraduates was that all participants shared identical or similar personality preferences, as sorted by the MBTI, Form M, shared by only 1% to 5% of the general population. Although personality preferences and temperament are only part of an individual's psychological make-up, they are illuminating indicators and have implications for higher education.

People with identical personality preferences may have unique responses to change, transition, uncertainty, ambiguity, stress, and learning, yet have striking similarities to the ways of others who share the same personality preferences. Table 5 lists code names of participants, their year in school, their personality preferences, and temperaments.

All eight participants took the MBTI sorter, and all verified their results. Five of the eight participants had taken the MBTI at least once before in various classes. Three participants had not previously taken the MBTI.

The preferences of the eight respondents represent three of the sixteen personality types as identified by the MBTI. Six out of eight participants held preferences for Introversion, Intuition, Feeling, and Perceiving (INFP), shared by only one percent of the general population. One of eight had preferences for Introversion, Intuition, Thinking, and Perceiving (INTP), also shared by one percent of the general population, and one participant had preferences for Extraversion, Intuition, Thinking, and Perceiving (ENTP), shared by three to five percent of the general population.³

CODE NAME	YEAR	MBTI PREFERENCES	TEMPERAMENT
Trek	Senior	INFP	NF
Alex	Sophomore	INFP	NF
HB	Senior	INFP	NF
Emeril	Senior	ENTP	NT
Edwin	Senior	INFP	NF
Bob	Senior	INFP	NF
Pablo	Junior	INFP	NF
Eliot	Sophomore	INTP	NT

Table 5-List of Participants by Code Name, Year, MBTI Preferences, and Temperament.

Temperament

Seven of the eight participants were Introverted and one was Extraverted. All had very clear or clear preferences for Intuition. All had preferences for Perceiving. Six of the eight were Intuitive Feelers, or NFs. Two of the eight were Intuitive Thinkers, or NTs. Six out of eight participants held preferences for INFP, one for INTP, and one for ENTP. Each group of personality types tends to respond to stress in similar ways. Table 6 lists similarities in preferences: there were six Intuitive, Feeler, Perceivers; two Intuitive Thinking, Perceivers; eight Intuitive Perceivers; eight Intuitives; and eight Perceivers (NFP=6, NTP=2, NP=8, N=8, and P=8). All respondents are Intuitive Perceivers,

^{3 3} Tieger, P. D., & Tieger, B. B. (1995). *Do what you are: Discover the perfect career for you through the secrets of personality type* (2nd ed.) Boston, MA: Little, Brown, and Co., pp. 33-52.

indicating that they see patterns and possibilities; prefer to keep their options open to new information; and tend to be creative.

CODE NAME	MBTI	TEMPER- AMENT	NFP	NTP	NP	N	P
Trek	INFP	NF	X		X	X	X
Alex	INFP	NF	X		X	X	X
HB	INFP	NF	X		X	X	X
Emeril	ENTP	NT		X	X	X	X
Edwin	INFP	NF	X		X	X	X
Bob	INFP	NF	X		X	X	X
Pablo	INFP	NF	X		X	X	X
Eliot	INTP	NT		X	X	X	X
Totals	INFP=6 INTP=1 ENTP=1	NF=6 NT=2	NFP=6	NTP=22	NP=8	N=8	P=8

Table 6-Lists of Similarities in Specific MBTI Preferences

Intuition As Dominant and Auxiliary Functions

In personality type, only one function is dominant—one preference that is developed more than the other three over the course of one’s life; that is the preference one access first in taking in or processing information. The three types of personality that emerged in this study all have a preference for Intuition either as a dominant or as an auxiliary function, that is, the most used and the second most used function. People with INFP preferences have a dominant function of Introverted Feeling, and an auxiliary function of Extraverted Intuition. People with ENTP preferences have a dominant function of Extraverted Intuition, and an auxiliary function of Introverted Thinking.⁴ Having a dominant function of Extraverted Intuition means that one directs his energy

⁴ The dominant function refers to the functions of Sensing, Intuition, Thinking, or Feeling that are used by the individual most often with greatest confidence. The auxiliary function is the second-most used function.

outward to “scan for new ideas, interesting patterns, and future possibilities,” and having an auxiliary function of Introverted Thinking means that one seeks “accuracy and order in internal thoughts through reflecting on and developing a logical system for understanding.”⁵

MBTI Type	Dominant Function	Auxiliary Function
INFP	Dominant Feeling	Auxiliary Intuition
INTP	Dominant Thinking	Auxiliary Intuition
ENTP	Dominant Intuition	Auxiliary Thinking

Table 7-Dominant and Auxiliary Functions for INFP, INTP, ENTP Type Preferences.

Feeling Different Because They Are Different

Participants described feeling different from others at the university, that they were the “outliers” at this university: “I feel different than everybody else in class. I’ve had a feeling of not fitting in with what seemed to be the general student body,” reported one student.” Another participant said, “I think I’m the guy with the most problems. I haven’t heard anyone else who talks about that.” They may feel they are “weird,” that something is “wrong” with them, or that being an outlier is not a positive thing.

In the general population, there are mainstream traditionalists who comprise a large percentage of the general population; their preferences include:

- Extraversion, Sensing, Thinking, Judging (ESTJ), 13% of the general population;
- Extraverted, Sensing, Feeling, Judging (ESFJ), 13% of the general population;
- Introverted, Sensing, Thinking, Judging (ISTJ), 6% of the general population;
- Introverted, Sensing, Feeling, Judging (ISFJ), 6% of the general population, totaling 38% of the general population. (See Table 8).⁶

⁵ MBTI Manual, p. 23.

⁶ Ibid.

Participants in this study comprise 1-5% of the general population, and are statistical outliers: INFP (1%), INTP (1%), and ENTP (3-5%). In the U.S., the most common personality preference for males is ESTJ.

ISTJ=6%	ISFJ=6%		
		INFP-1%	INTP-1%
			ENTP 3=5%
ESTJ=13%	ESFJ=13%		
Total SJs In General population=38%			

Table 8-Percentage of Sensor Judgers in the General Population

Description of INFP Preferences

Six of the eight participants had INFP personality. According to the Myers, McCaulley, Quenk, & Hammer (1998),⁷ people with INFP preferences are described as “artistic, reflective, sensitive.”⁸ In a national sample, INFPs were “among top four types valuing ‘autonomy and creativity’” (p. 97).⁹ People with INFP preferences have

an inner core of values that guides their interactions and decision. They want to be involved in work that contributes to both their own growth and inner development and those of others. They are generally faithful in fulfilling obligations related to people, work, or ideas to which they are committed, but they can have difficulty performing routine work that has little meaning to them (Myers et al., 1998, p. 95).

This information has implications for INFPs in education. From what participants in this study reported, university *required* classes hold little meaning for them, and having to take such classes caused frustrations for them even though they understood why such classes were required. One respondent said, “I’m taking those [required] classes I put off till the end because I didn’t want to take them.”

⁷ Myers, I. B., McCaulley, M. H., Quenk, N. L., & Hammer A. L. (1998). *MBTI Manual: A guide to the development and use of the Myers-Briggs Type Indicator*. (3rd ed.) Palo Alto, CA: Consulting Psychologists Press, Inc.

⁸ Ibid. Table 4.19, p. 97. Research conducted by Thorne & Gough, 1991.

⁹ Hammer, 1996a.

Moreover, INFPs “find structures and rules confining and prefer to work autonomously.” They are:

adaptable and flexible until something violates their inner values. Then they stop adapting . . . resulting expression of value judgments can emerge with an intensity that is surprising to others” ((Myers, et al., 1998, p. 95).

One of the most important findings in the research described by Myers et al., and most relevant to this study is that “If INFPs do not find a place where they can use their gifts and be appreciated for their contributions, they usually feel frustrated and may...withdraw from people and situations” (Myers et al., 1998, p. 96). Respondents made similar comments. Two withdrew from the university.

Triggers of stress include an “atmosphere of negativity,” “criticism,” “fears of impending loss and separation from important relationships,” and when their “values are violated.”¹⁰ Under stress, INFPs may become “distracted and impulsive” and “critical.”¹¹

Description of INTP Preferences

One participant had clear INTP preferences. Like INFPs, INTPs constitute only one percent of the general population. A general description of people with INTP preferences indicates that INTPs “ask the difficult questions, challenging others and themselves to find new logical approaches”; they prefer to work independently when solving problems that requires an approach “that runs counter to prevailing wisdom or knowledge,” “value intelligence and competence.” see patterns, possibilities, and connections “beyond the present and obvious,” are curious, enjoy learning for its own sake, are “mentally quick,

¹⁰ Quenk, N. L. (1993). *Beside ourselves: Our hidden personality in everyday life*. Palo Alto, CA: Davies-Black Publishing. pp. 94-95.

¹¹ Pearman, R.R. (1999). *Enhancing leadership effectiveness through psychological type*. Gainesville, FL: Center for Applications of Psychological Type, Inc., p. 27.

insightful, and ingenious” and “dislike redundancy and stating the obvious” (Myers, et al., 1998, p. 85). INTPs also are described as “conceptual problem solvers . . . intensely intellectual and logical with flashes of brilliance” (Tieger & Tieger, 1995, p. 42). They “think in extremely complex ways” and “their ideas are so complex they have difficulty communicating and making others understand them” (Tieger & Tieger, 1995, p. 43). The participant with INTP preferences reported that he did not find his classes academically challenging.

Triggers of stress for INTPs include emotionalism, others’ insensitivity to Introverts’ need for silence and privacy, “arbitrary situations that limit freedom of choice and action or feeling that others are intruding” on their space.”¹² Under stress, INTPs may “become more restless and defensive, rebellious and expressive of disappointment.”¹³

Description of ENTP Preferences

One respondent had ENTP personality preferences. People with ENTP preferences tend to be “creative, imaginative, and clever,” and see patterns and interrelationships in ideas and structures, and are action oriented (Myers, et al., 1998, p. 77).

Triggers of stress behavior for ENTP include “fatigue and over-commitment, dealing with bureaucratic red tape,” and “violation of important values.”¹⁴ Under stress, ENTPs may “become more questioning and forceful in

¹²Ibid. pp.110-113.

¹³ Pearman, R.R. (1999). *Enhancing leadership effectiveness through psychological type*. Gainesville, FL: Center for Applications of Psychological Type, Inc., p. 22.

¹⁴ Quenk, N. L. (1993). *Beside ourselves: Our hidden personality in everyday life*. Palo Alto, CA: Davies-Black Publishing.

getting answers . . .impulsive . . .quiet and reserved.”¹⁵ They may also withdraw and become depressed, and lose enthusiasm and motivation.¹⁶

Analysis of Participants’ MBTI Scores

Key: S=Slight Preference, M=Moderate Preference, C=Clear Preference, VC=Very Clear Preference

Bold=Very clear preferences or Clear Preference

*****=Scored total possible points

Trek	INFP-1%	I (S)	*N=26/26 (VC)	F (S)	P (M)
Alex	INFP-1%	*I=21/21 (VC)	*N=26/26 (VC)	F=23/24 (VC)	P=21/22 (VC)
HB	INFP-1%	I (S)	*N=26/26 (VC)	F (S) T on MBTI but verified F	P (M)
Emeril	ENTP-5%	*E=21/21 (VC)	N=22/26 (C)	T (M)	P (M)
Edwin	INFP-1%	I (M).	N=23/26 (C)	F=19/24 (C)	P=21/22 (VC)
Bob	INFP-1%	I (S)	N (S)	F (S)	P (S)
Pablo	INFP-1%	I (S)	N (S)	F (M).	P (S) J on MBTI but verified P
Eliot	INTP-1%	I=20/21 (VC)	*N=26/26 (VC)	T (S)	P (C)

Table 9-Analysis of MBTI Scores with Preference Clarity Category and Raw Point Ranges

Very Clear Or Clear Preferences For Intuition

“It is by logic that we prove. It is by intuition that we discover.”

Henri Poincare

¹⁵ Pearman, R.R. (1999). *Enhancing leadership effectiveness through psychological type*. Gainesville, FL: Center for Applications of Psychological Type, Inc., p. 33.

¹⁶ Quenk, N. L. (1993). *Beside ourselves: Our hidden personality in everyday life*. Palo Alto, CA: Davies-Black Publishing. p.p. 195-197.

Intuition is powerful. Intuition may be “the most universal natural ability we possess,” and is “responsible for every creation, device, and man-made system of civilization to date.”¹⁷ Everyone is intuitive to some extent, but some pay more attention to their intuition than others.

All eight participants had a preference for intuition, as identified by the MBTI: Four of eight participants had a very clear preference for Intuition (with scores of 26 out of a possible 26 points), and two of eight participants had a clear preference for intuition (with scores of 22 to 24 points out of a possible 26 points).¹⁸ The other two participants had a slight preference for Intuition.

Defining Intuition

People know it when they have it—that visceral feeling one experiences when making decisions, that sense of knowing something without exactly knowing *how* one knows it, or that little nagging inner voice that warns one of impending peril. Defining intuition, however, is much more difficult; it is “familiar but subtle” (Hart, 2001, p. 72). Intuition is a way of knowing that is unconscious or automatic, as opposed to conscious or controlled. Unconscious knowing is simple, reflexive, and emotional, unlike conscious processing, which is complex, reflective, and rational; our minds process “vast amounts of information outside of consciousness, beyond consciousness” (Myers, 2002, p. 29). Webster’s Dictionary (2000) defines intuition as “immediate knowledge of something

¹⁷ Bastick, T. (1982). *Intuition: How we think and act*. Chichester: John Wiley & Sons, Ltd., p. 2.

¹⁸ Clarity of preference ranges on a continuum of slight to very clear; the MBTI does not measure amounts of a particular preference, only how clearly one has developed his preference.

without conscious reasoning,” the ability to know something without knowing how or why.¹⁹

According Noddings & Shore (1985), there are many who define intuition as a “spontaneous understanding or perception” but few who can agree on the actual properties of intuition (p. 2). Psychologists, philosophers, mystics, and the general public identify varied aspects of intuition ranging from artistic expression, problem-solving aspects, religious revelation or enlightenment, psychic experiences to ‘feminine intuition. (Noddings & Shore, 1985, p. 2).

People refer to intuition in many different ways, including meditative thinking (Heidegger, 1966) pure experience (James, 1967) and contemplative knowing (Wilber, 1989).²⁰ It is thinking without awareness and is right-brain activity. Intuition is part of “whole-brain” learning (Dyer & Carothers, 2000). Implicit memory is learning how do something without actually know that one knows, is evidence of intuition.

Intuition and Creativity

Intuition is connected to creativity (Segal, 2001; Csikszentmihalyi, 1990, 1996, 1997, 1998), leadership (Pearman, 1998), and learning (Torff & Sternberg, 2002; Hart, 2001; Atkinson & Claxton, 2000; Weintraub, 1998; Tirosh, 1994; Noddings & Shore, 1985; Bruner, 1977; Wallach, 1967; Kagan, 1967).

¹⁹ Webster’s New Pocket Dictionary. (2000). Wiley Publishing, Inc. p. 170.

²⁰ Hart, T. (2001). *From information to transformation: Education for the evolution of consciousness*. New York: Peter Lang. p. 72.

Intuition as a Way of Knowing

The MBTI Manual defines intuition as the preference for seeing patterns, relationships, possibilities, and meanings. Although everyone takes in information through their five senses—taste, touch, sight, smell, and hearing—some people trust their sixth sense more for information than the usual five. Intuitives are future-oriented, look for meanings and relationships in all things. Intuition is at the opposite end of the continuum as Sensing. Sensors are practical, oriented in the present, prefer to deal with facts, are linear, and trust information taken in through their five senses. Sensors pay more attention to facts and may remember facts easier than Intuitives, but Intuitives are best at interpreting those facts and seeing implications or insights.

Epstein (1994) identifies two opposing ways of knowing as “experiential and rational”: Experiential knowing is “intuitive, automatic, nonverbal,” whereas rational knowing is rational, analytic, and verbal (Myers, 2002, p. 30). Moreover, experiential knowing is rapid, emotional, aimed at what feels good, and is self-evident, whereas, rational knowing is slow, logical, and justified with logic and evidence. Schools focus on rational ways of knowing (Myers, p. 30).

Needs of Intuitives

Individuals who prefer Intuition as a way to take in information, however, have very different learning needs from those who prefer Sensing. Intuitives, unlike Sensors, focus on future possibilities, see patterns and possibilities, enjoy novelty, and take in information through a sixth sense.²¹ In the banking style of teaching, or transmissive

²¹ Hirsh, S. K., & Kummerow, J. M. (1998). *Introduction to type in organizations: Individual interpretive guide*. 3rd Ed. Palo Alto, CA: Consulting Psychologist Press, Inc.

style, students are merely passive vessels to be filled with facts and figures through lecture. That teaching style is may be preferred by Sensors, but may not engage Intuitives. Students who prefer Intuition may become frustrated and feel, as many participants stated, that they *have* to fit in, that they *don't* fit in, or that they must *adapt* to their environment, becoming a source of stress, feelings of disaffection, and disengagement, as the participants reported.

Intuition and Higher Education

Because intuition is not a power traditionally respected in the academic world. Many educators do not acknowledge intuition as a way of knowing. Being “faced with a bewildering array of meanings and connotations for the word *intuition*, ...have, unfortunately, chosen to ignore intuition completely or treat it contemptuously as a catchall for any process not easily described as logical or linear” (Noddings & Shore, p. 2). Two writers who show such disdain for intuition are Engelmann & Engelmann (1981) who suggest:²²

The feeling of intuition is actually nothing more than the by-product of a very sloppy learning situation. It can be induced merely by presenting a concept in such a way that the learner must spend an unnecessary amount of time trying to learn it. The intuitive feeling can be eliminated by improving the presentation, thereby reducing the amount of time required to learn the concept.

Such views notwithstanding, according to Noddings & Shore, “recently psychologists and educators have become interested in the significance of intuition” (p. 1).

A preference for intuition has important implications in higher education. Psychologist Jerome Bruner (1977, p. 59) “considers intuition of particular import to

²² Cited in Noddings & Shore. 1985, p. 62.

educators,” and raises two questions in his work: What is it and how can educators foster it?” (Noddings & Shore, 1985, p. 1).

Intuitive people tend to be both “unconventional and uncomfortable in their unconventionality” yet “confident” and “self-sufficient.”²³ Intuitive people are “emotionally involved in abstract issues... willing to explore uncertainties and entertain doubts, and ...do so without fear,” and are “independent, spontaneous, foresighted.”²⁴ Thorne & Gough (1991) found that “All Intuitives, our data suggest, value intellectual and cognitive matters and are comfortable with uncertainty and complexity” (p. 77). All eight participants in this study were also comfortable with uncertainty and complexity, but frustrated with having to adapt. By discrediting intuition and intuitive processes in learning,

Educators avoid a process that has been credited with producing some of the most important advances in the sciences and one that has contributed immeasurably to the arts and humanities. Ignoring the potential benefits of intuition also cuts off educators from one of the most exciting and least explored areas of learning in children and adults. (Noddings & Shore, 1985, pp. 2-3)

When class content emphasizes memorization of facts and figures, and fails to provide opportunity for meanings and relationships, Intuitives tend to lose interest. The kinds of evaluation generally used on college campuses emphasize rational, not intuitive, thought processes: Some forms of multiple choice tests (easy to score) prompt regurgitation of facts and figures rather than demonstrate how a student *applies* facts, figure, and ideas or links them to other areas of his or her life. Reflective essays,

²³ Westcott, M. as cited in Goldberg, P. (1983). *The intuitive edge: Understanding and developing intuition*. Boston: Jeremy P. Tarcher, Inc., p.108.

²⁴ Ibid.

however, reveal more about the way a student thinks, encourages deep thinking and self-searching, but take longer to grade and must be graded subjectively.

In Native American and other cultures, intuitive experiences can involve the participation of many members of the community at special times. Seers and oracles, say Noddings & Shore, shared a “claim to knowledge not normally accessible through ‘rational’ means . . . often regarded as the most valuable kind of knowledge” (p. 4).

Intuition is an important part of transformative learning. When faculty members refuse to recognize intuition as a way of knowing in classes or in learning environments, they deny learning opportunities to students with clear preferences for intuition. When professors merely transmit information to students, they fail to provide space for nonlinear exploration or discussion of ideas with themselves, other students in class, or members of the community at large.

Intuition is powerful (Myers, 2002, p. 127). There is “instant parallel processing and integration of complex information streams” in everyday perception, and right-brain thinking (Myers, 2002, p. 127). Implicit memory is learning how to do something without actually know that one knows, is evidence of intuition.

Preferences for intuition, this disrespected mode of knowing, characterized seven of the eight participants. They felt different because they *were* different. Only 1% to 5% of all students entering college share their preferences. Many students entering college, especially business students, are Extraverted Sensor Judgers (ESJ). Students with preferences for Sensing take in and process information differently than students who are Intuitives. If “the business world appreciates and rewards action which coincides with

...extraverts' strength," it makes sense for universities to construct and conduct classes that cater to the learning styles of Extraverts, and Extraverted Sensor Judgers.

Personality and Need for Affiliation

Winter (2002) identifies "three major human motives—the drives for power, achievement, and affiliation" (p. 25), and defines affiliation as "concern about establishing, maintaining, or restoring friendly relations among persons or groups" (2002, p. 27). People who have a strong need for affiliation are "cooperative and friendly when 'safe'" but may become "defensive and even hostile under threat" and tend to seek help from "friends and similar others" (p. 27).

As Intuitive Feelers, INFP students tend to be relational and affiliative. INFP students may feel threatened or attacked by the educational system and the lack of relationships with professors and others. They may feel unappreciated and unrecognized by professors. Intuitive Feelers may need the interaction with their professors. As NF participants repeatedly stated, they wanted professors to be "engaging," "enthusiastic," and "encouraging," and "to acknowledge what I know."

When persons high in affiliation and achievement motivation feel safe, they cooperate with others, but when they feel threatened, they may become uncooperative and defensive (Winter, 2002):

Under favorable and 'safe' conditions, people high in affiliation and achievement motivation are . . . cooperative bargainers. Under conditions of threat, however . . . *affiliation-motivated people are the least cooperative and the most suspicious and defensive bargainers* . . . Thus leaders with [name of political leader]'s motive profile are likely to be 'peaceful' only when they are comfortable—that is, when they interact with similar people whom they like . . . With dissimilar people, in contrast, distance themselves and respond with dislike. (p. 45)

If Intuitive Feelers are in a learning environment where they feel threatened (by competition, anxiety or stress, fear of possible humiliation, lack of community, for example), and if they must constantly adapt to ways of learning that are non-preferred, they may become defensive and withdraw.

Participants in this study who were Intuitive Feelers commented that they liked a space where students, faculty, and other members of the community could meet, a place where there was “a sense of community,” and a “sense of family.” All participants who were NFs in this study preferred small classes. For example, one participant remarked, “I think having more small classes might be useful. Getting the students to feel comfortable with their classes. . . there would be a big change.” One participant also remarked that he “preferred to be in a class where I know everyone’s name.”

Feelings of Depression

In a study on major depression and the environment, Anna-Monika-Prize (1998) link genetic factors, environment, and depression. The findings include “certain classes of stressful life events are modestly heritable” (abstract). While exploring two mechanisms, genetic control of sensitivity to the environment, and genetic control of exposure to the environment, the authors discovered that:

Genetic control of sensitivity to the environment suggests that genes . . . render individuals relatively vulnerable or relatively invulnerable to the pathogenic effects of environmental stress . . . evidence is presented that the depressogenic effect of stressful life events is substantially greater in those at high versus low genetic risk to the M.D.” (abstract)

Their findings suggest that some individuals are inherently predisposed to sensitivity to the environment and experience major depression (MD), and that

those individuals will automatically place themselves in environments where they feel less stressed, an idea important to this study: Participants reported leaving a stressful environment—school—for a period of time to recoup and rejuvenate.

The idea of regulating genetic predisposition and selecting one's environment as a response to stress links to personality preferences and temperament, self-organization, and autopoiesis, in my opinion. Male students with particular personality preferences and temperament, may find traditional classroom structure (linear, hierarchical, large, single approach, and lecture-style), stressful, and may consciously or unconsciously disengage or drop out of school.

Some schools may attempt to support students who are in a state of chaos, but may be ineffective because they fail to take into account individual personality and genetics, and take an “outside-in” approach.

Depression is insidious—it may creep into students' lives without fanfare. One student shared his concern about depressed students on campus. He may or may not have been referring to himself:

Students who are depressed: they assume college is hard work. They fall into the idea that that's normal to be depressed—it's just a means to the end. During that time, they might develop habits that carry through that are not good.

Students may not receive support or understanding from others when they are depressed.

One participant described how depression was ignored or brushed aside by others:

I'm perfectly comfortable being insular and rude. When students who are depressed do talk about their problems, they're just told, “Oh, it's ok. You'll work through it.” Or, “Oh, it will get better. It'll be wonderful in the end.” If you say, “I'm sick of this,” people will think you're a loser. There's really no outlet for your emotions in that sense.

Males in Western society are socially programmed to ignore or deny their emotions.

Sources of Stress for INTP, INFP, ENTP: Head ‘Em Up and Move ‘Em Out

What may prove to be an additional source of stress for male undergraduates with INTP, INFP, or ENTP preferences is the initiative by a number of state schools “aimed at moving kids more quickly through the system.”²⁵ The University of Texas “has created the \$22 million ‘B-On-Time’ program, which offers select students the chance to turn loans into grants if they graduate in four years with a B average” (all quotes from Pat Wingert, May 31, 2004 issue of *Newsweek*, p. 60). Other schools involved in the initiative including Illinois, who reportedly is “guaranteeing freshman that their tuition won’t increase—as long as they finish in four years.” The vice provost of UCLA is also monitoring students’ progress, says Wingert (p. 60):

those who don’t accrue enough credits per semester face probation or expulsion. Administrators concede that students don’t like these not-so-subtle hints—but they say they’re necessary. [Vice Provost] ‘When [students] say they want to stay longer than four years, I ask them if they’re prepared to write to a well-qualified freshman who won’t get in as a result.’”

That argument doesn’t win them all over, she [Vice Provost] says, but it does make them think. And that’s what college is supposed to be all about.

In my opinion, such a program of extrinsic motivation will further perpetuate shallow learning rather than the deep, meaningful learning necessary to engage students and will impede intrinsic motivation for male students with preferences for relational learning

Strange Attractors

To illuminate their patterns of behavior, interactions, associations, and to get a sense of the context and environment their stories are set in, Question #4 in Interview 1

²⁵ Wingert, P. More kids major in going slow. *Newsweek*. May 31, 2004. p. 60.

invited students to describe what or who they were drawn to (attractors), and what or who they were repelled by in and out of school (repellers). Questions #4a was designed to discover what or who attracted students, and Question #4b was designed to discover what or who repelled students, including people, events, attitudes, environments, and experiences that attracted or repelled. Their choices created a patterns or map of their everyday behaviors as they go through periods of chaos, and order over time. In other words, their everyday choices and behaviors created a kind of boundary for these students, an emerging order.

Strange attractors have boundaries that limit behavior and create hidden order in natural systems. The behavior of a system, including human behavior, is organized around its strange attractors. For example, a strange attractor may be a specific person or group of people, social events, interests or hobbies, ideas, values, love, one's personality preferences, or an academic specialization. As another example, there are organizing principles that limit behavior in families including "religious beliefs, cultural norms, family 'myths,' values" or other things that limit behavior (Stevens, p. 71). In college and universities, strange attractors may be specific faculty, peers, social events, certain classes, organizations, communities, or other opportunities.

Attractors

Participants responded that "people" both attracted and repelled them. Participants were either attracted to or repelled by their professors: "The professors I've had . . . no guidance . . . kept me interested in learning things I might not have been interested in," Another participant enjoyed taking a class from a favorite professor. He said: [Name of professor] has been a big attractor. She's very positive and friendly. . . really cares about

her students.” When asked what or who was an attractor, he replied, “I would say you, and Professors [names of professors].”

A participant described one of the professors he enjoyed who had an unusual way of connecting with students through a unique teaching approach—he would “wear the same coat for every class, and “recommended a lot of good books to read.”

I never had a personal interaction with him, but I always thought he had a really neat class, and he was a really neat person. He brought in a lot of ideas from outside. He’d say, ‘If you don’t know a word’s meaning, then look it up!’ He’d also recommend a lot of good books to read.

Another participant was attracted to a certain class, and engaged in class when because there was a variety of activities, space for creativity, and a felt connection with the other students in class:

I took [name of class] with [names of professors]. There was a lot of creativity and diversity in that class and doing different things. Most [of the students] were an agent of change, interested in doing ‘good,’ putting their energy into making a better world, positive about changing things they don’t like. It was a good thing being around all those students; people right in class who wanted to make a better world.

Other respondents said, “People—good thinkers. I’m interested by people who think differently. “

Other attractors included two learning communities on campus. Several respondents mentioned such spaces where they enjoyed the people who were drawn there, freedom to explore their interests, where they could be themselves, were empowered because they had a say in what decisions are made and how they are made:

The people, the environment where you can explore what you’re interested in. You can be yourself, can be part of decision-making, have interaction with faculty, and [where] you have a stake in your own learning journey.

Others attractors included ways of learning and learning environments.

Participants revealed their interests and preferred ways of learning. For example, participants mentioned having “ a lifelong passion for sports,” traveling,” “being in nature indicating they are physical, experiential, active learners. For example

I’ve always enjoyed traveling to places and experiencing other people’s cultures and perspectives. Ever since I was young, I’ve been really interested. Lately, related to that, I’m interested in people’s worldviews. My worldview is created by where I live, and the world around me. Other people would have other views that basically govern their attitudes.

Three participants mentioned a particular class they had all taken where the professor encouraged students to be creative and to think critically. One participant liked the class because he could express his creativity. He said, “It’s a cool class. People either love it or hate it. I like that everyone is associated with creativity. He encourages us to be creative and to find out own style of writing.” A second participant declared that this class changed his worldview.

The prof is focused on the framework of the class with critical thinking and tells us to always question things. *We* have to identify what the framework is. He gives us a packet of what he came up with to debunk articles, to not just accept it. Before that class, I became apathetic and stoic, not really thinking critically. Sometimes I accepted things, too easily without thinking.

A third participant enjoyed conversations with his professor, who treated him with respect.

I like a one-on-one conversation with my professor, but that’s really hard for me to find a one-on-one with the professor. And when I do, I get all nervous and afraid of them because, again, I’m afraid of being shut down.

One interviewee valued a different professor’s enthusiasm and ability to connect content to world events. The student said:

I learned. I learned more in that class than in any other class I'd taken. Just with any class, the thing that made it is that the teacher is [was] enthusiastic. Professor [name of professor] was enthusiastic about rocks and the earth. That's what made it good—his enthusiasm.

Repellers

When respondents (all Intuitives) spoke of classes, they frequently mentioned class size, especially large classes. In large classes, participants felt depersonalized and different from the rest of the students, and that they did not fit in with the rest of the students. Most of these participants were relational, and wanted interaction, personalization, acknowledgement, and a variety of teaching styles. Having said that, one participant reported that he thought large classes offered more freedom because of the sheer numbers of students.

Two students were repelled by almost everything in school. One quote describes the attitudes of both: "Nothing in particular, just everything." One respondent mentioned "Short-sighted people. People are a huge repellent to me. I'm not really mean to them. I have a quiet distaste for them. Most of the people here fit in that mold." They also mentioned people in their residence halls, crowds and parties: "If I don't feel comfortable, I just don't return. If I feel not welcome or that the environment is not what I'm looking for, I don't go back." Table 8 demonstrates some of their responses regarding classes and experiences in classes that repelled them.

Classes	Representative Quotes
No Feeling of Connection	I've had smaller classes. It has a lot to do with the size of the class and the professor. In my class they had other things they would rather be doing. They didn't even make it a point to try to disguise that.

Routine or Lack of Change	I very much welcome spontaneity and change. Periods of equilibrium—I don't allow them to last very long. When I get in a rut—that prompts more change.
Teaching Style	I see a lot of focus on beating the points into your head. No application of anything. It's the largest class, number of students. I did very poorly. The teacher was down at the bottom. He did his speech doing power point. It was a literal disconnect—I didn't go to class at all. You could get the lecture off the computer. It was boring. Anything where it was more open versus just memorization and regurgitation. Something where you have freedom to think, and could look at things as a whole rather than as pieces
Large Classes	Something you learn to live with when connected to a university. You're just a number in class, no, not even a number. They're just a money generator I don't think anyone can learn anything from a class like that. That kind of learning will stay with you for only a few months. College seems to be a business to me. I like classes where there's thought involved.
Forced to respond rather than invited to speak	I'm afraid of how people perceive me. If I feel that that environment can adjust to me, I'll go back. If I'm in an environment where everyone pinpoints me, "What do you think of that?" I feel targeted. I feel it should come to me when I'm ready to speak.
Feelings of being different or not fitting in	I've had a feeling of not fitting in with what seemed to be the general student body. People, on average, are really self-involved, not caring about other people's feelings. They are arrogant and egotistical—not really caring about other people at all—only about themselves.

Table 10—Classes and Class Experiences Repellent to Respondents (also Intuitive Respondents)

Deep learning requires emotional connection, reflection, and interest. One student said he learned best and remembered what he learned in classes that were “more open versus just [a place for] memorization and regurgitation. A place where you have freedom to think, where you could look at things as a whole rather than as pieces.” He further added that class size was important, and that he had “never had a good experience in a class over say 30-40 people.” One participant described his preference for small classes and opportunities for critical thinking and learning that lasts. He said:

I don't like how much college seems to be a business to me. I like classes where there's thought involved. Large classes are just a money generator. I don't think anyone can learn anything from a class like that. That kind of learning will stay with you for only a few months.

Course content must be meaningful and relevant to students. One student revealed that he had "to find meaning in what I'm learning. If it's not something I care about, it's hard for me to stay focused. I just drift off to think of other things that are more important to me. "

After one participant returned from a national student workshop, he believed his out-of-class learning experience would "really help the community around me and the [university] community." He didn't want "to fall into the system of just learning inside the class. I need to be able to apply what I learn."

Experiential, hands-on, connected learning is an important way to learn, according to all eight participants. Two said,

It's important to have experiential learning, too; hands-on things and actually getting involved on a personal level makes it easier. I like service learning. It's very important to grasp the material better.

It's connecting everything together, which is what we should be doing in a lot of our other classes. It's just really exciting! Yeah. It's really, really good experience.

A Synthesis of People, Place, Space, Atmosphere, and Attitude

One interviewee articulately described his ideal learning environment as a synthesis of intimacy, reflection, a safe space, where professors would invite, not force, him to ask questions and to voice his opinions. There would be some structure, he said, not "everything loosey-goosey," with an "amendable plan of action." There would be "small groups," a mediator "who will facilitate different

kinds of learning,” but “no one at the helm,” “no outlines,” and time to reflect on the day’s class—a “chance to paraphrase the ideas,” “visual models, “ and more:

It would be open and safe, respectful, where I’m encouraged to ask questions, I’d be encouraged to voice my opinions. I like structure—I don’t like everything loosey-goosey. I’d like there to be a plan of action, but an amendable plan, guidelines, not outlines, a mediator to keep things moving along, at the end of a learning experience, a change to go over things, a chance to paraphrase the ideas and to think about what I learned. In some classes, things are just thrown out fast and you don’t get a change to paraphrase or talk about key ideas. I also like pictures—I learn a lot by seeing images and visual models.

This participant discovered a learning community that was similar in many ways to his ideal learning environment.

Their ideal learning environment would also be interactive and relational. As one participant stated, “You need other people to learn. It’s comfortable and a lot more efficient to have other people involved. If there’s something you want to say but can’t get it out, other people can help you.” In their interactive and relational learning environment, students wanted open discussion. One said, “It’s having a discussion base, where you’re not limited by a professor and only his thoughts or her thoughts.” They also wanted diversity—diversity of ideas, multiple approaches, diverse people, teaching styles, and diversity of class location. One participant stated, “I’m a holistic, systems learner—a little bit of everything works.”

Preferences for Process not Product

In a mass-market society, a degree is important, if not essential, to secure a lucrative job. But, for the subjects in this study, a degree is simply a product of

one's education, and not the most important one at that. Participants in this study valued the process of learning more than the product of the education, as one student said: "It's not *what* I learn, it's the process of learning that *I* value the most." The notion of emphasizing only the degree repelled another student. He felt that administrators and faculty place too much emphasis on grades and getting the degree. He said,

Narrow-mindedness is the killer. They're [administration, some faculty] so focused on the degree that they lose sight of what is really important. A 3.8 is really trivial compared to what's really important. What people really don't know is if that goal is really the right one. There's no guarantee that they'll be successful [students who just work for or have a high GPA]. That's awfully pessimistic, but there's still no guarantee you'll be successful.

Interactions with Faculty, Advisors

You cannot underestimate the importance of the interplay
between teachers and pupils.
Riley & Rustique-Forrester

Seven of the eight interviewees mentioned the need for relationship with faculty. They wanted their professors' respect and validation. They also wanted someone they could talk to, mentioning both faculty and advisors. One subject reported that it had been "beneficial for me having a relationship with an advisor and meeting with them. A lot of people don't have a personal relationship with someone—it's tough. It helps to have someone take a vested interest in your; have interactions with faculty, advisor type of person. "

When there seems to be no "vested interest," students feel the impact. As one participant reported,

I never felt that my advisor cared to initiate contact with me. I never once received an e-mail from him. He never took the initiative. If you never get them [required classes] when you'd need to, you will be waiting a year. It could have been better.

This participant had experiences with faculty and advisors that were initially negative but had positive impacts, due to the participant's openness to experience, ambiguity, and change. He said:

Maybe I've been alienated through other classes, entropy, maybe, and they've taken me from what I wasn't interested in to what I want to do. They forced me to take other classes and through those I have found what I really want to do. I'm more focused on what I want to do. Negative experiences with teachers . . .if I had only positive experiences, I wouldn't be doing what I want now. If my advisor had helped me I wouldn't have had to do stuff on my own. I did stuff on my own. By experiencing the negatives and knowing that's not what I want, I got to this [knowing what he wants to do].

Change was both exciting and frustrating.

How They Would Teach

When participants thought about how they would teach if they were professors, their responses illuminate how they would like to learn (based on a theory of projection). They wanted flexibility and variety to accommodate their learning styles, interaction, student involvement, humor, to have the professor *know* students' expectations for class, but also be able to guide as well. They also would teach students to be critical thinkers, creative, and get them involved in campus or community projects so students could become more aware of their local environment, to provide them additional opportunities, and for experiential learning. One participant responded: "Even within the lecture you need to have group involvement or you're just going to put those kids to sleep. I mean, I

sleep through classes. The professor's just up there talking *to* us instead of talking *with* us."

Another said, "I would encourage a lot of sharing. I like to learn through dialogue and encourage people to speak up and hear what they have to say—get input from the entire group."

In addition to interaction, he said, humor helps:

Humor always helps in any type of lecture or any type of class. So making sure that it's enjoyable and that you're using all of the resources that you can to get students to understand what they want to get out of the class. *Understanding* is what students want to get out of class.

Participants would teach students to become critical thinkers and "to question everything and to not just accept things at face value." Furthermore, one participant said,

I would encourage alternative media, mediums, as outlets of creativity. I would encourage my students to present information in a way best suited to them, and encourage them to present what they've learned in interesting and creative ways. I would have them try to tie in some of their personal interests in what they're learning.

As professors, participants would get their students involved in campus and community projects, "Maybe to invest in some type of project or study that's going on on campus or outside campus." Another participant would get them involved in:

Just some study or project going on anywhere, not just on campus, so the students wouldn't be constricted—a way to keep their options open—to learn about new and exciting ideas that are going on. Topics that are interesting to them [the students].

How participants would teach directly related to what they found stressful or lacking in their own classes.

A Feeling of Being Unique and a Sense of Being Different

All respondents mentioned in various ways that they felt unique or that they were different than the rest of the students. This was paradoxical in that they felt special in a sense, but also different in the sense that they did not fit in. My interpretation is that they felt like observers at the edge of the group—were operating “at the edge of chaos”

(See Question #7a. & 7b., Interview #1) similarities and differences.

Similarities To Cohorts	Differences From Cohorts
Financial Concerns	Not interested in drinking/partying
Relationship Issues	Different worldviews
	Sexual Orientation
	Organization and Academic Stress: I think they're different than what most males go through.
	<p>Uniqueness: I consider myself to be <i>unique</i> person. A lot of people seem the same to me. They blend together and I try not to do that. Sometimes I try not to do stuff that too many other people are doing.</p> <p>I've always considered myself an individualist. I go out of my way to be different when it's not necessary.</p> <p>There is certainly a disconnect between me and other students. I can relate to your study.</p> <p>I'm observant—I always watch people. I'm critical—not in the foolish way —silently critical. I never take myself too seriously. I'm very self-deprecating—not because of low self-esteem, but because I think it's funny. People assume you're serious. There's not just one word that describes me.</p>
	Most problems: I think I'm the guy with the most problems. I haven't heard of anyone else

	who talks about that. For me, guys don't open up about things. They don't talk much.
	Not fitting in: I felt different than everybody else in class. I've had a feeling of not fitting in with what seemed to be the general student body. I knew I wouldn't slip right in [to this university]; it was reaffirming that I didn't fit in with the mainstream college experience.
	Think differently: I think that I think differently than most people, whether male or female. A lot of things I think about, like why are you doing it one way when you could do it <i>this</i> way? My concepts are clear to me, but to other people, they're 'out there' and confusing to them.

Table 12-Perceived Similarities and Differences

For example, one respondent revealed that he felt uncomfortable in social situations because he felt he was “not like anyone else.” He said, “I’m good at being a phony people-person, but when it comes to making social interaction, I’m pretty awful at it.” “It’s an awkward feeling,” he said, “when you’re not like anyone else, really. When you slightly despise people, it’s hard to hang out with them. There are people like that. You see a glimpse of them quite frequently.”

Disaffected male undergraduates in this study spoke of issues and concerns that have critical implications for engaged learning, transformative learning, and higher education. The findings indicate a need for change in higher education and creation of alternative learning environments on campus.

CHAPTER FIVE:
IMPLICATIONS, INSIGHTS,
AND RECOMMENDATIONS

When the answer begins to come, it does so in a startling way . . . You will either see it or hear it, and you are often given a great deal of knowledge in a brief period of time. It is a powerful experience that almost overwhelms you.
*Fools Crow*¹

Gleick wrote about chaos theory and receptions of chaos theory in 1988. He noticed the adaptation process of scientists over the twenty-year period since the initial -group of people in 1969 began to view the patterns, processes, and structures of natural systems in new ways. Gleick noted that the adaptation process included first “uncomprehension, resistance” and “anger, “ and then “acceptance” (Gleick, 1988, p. 304).

With their acceptance that simple systems did not always behave in simple ways; that complex behavior did not always imply complex causes; and that different systems did not always behave differently, practicing scientists began to feel that “compartmentalization of science” was “an impediment to their work,” and “more and more felt the futility of studying parts in isolation from the whole” (Gleick, p. 304). Those who once “ignored” the “presence of unexpected fluctuations or oscillations” in their research findings now realized that there was a “fresh way to proceed with old data” long forgotten (p. 304).

¹ Quoted in Miller, W. R., & C’DeBaca, J. (2001). *Quantum change: When epiphanies and sudden insights transform ordinary lives*. New York: The Guilford Press. Actual quote from Mails, T. (1990) *Fools Crow*. Lincoln, NB: University of Nebraska Press. (p. 51.)

For some professionals in higher education, similar processes of adaptation may be necessary. Some will at first resist, some will fail to see the significance or need for change in higher education, and some will continue to “ignore the presence of unexpected fluctuations or oscillations” —the disaffection of male undergraduates. But gradually, one may hope, more and more will realize the futility of Newtonian pedagogy in higher education, and will begin to embrace the concepts of emergence, nonlinearity, and self-organization that are fundamental in the “new” sciences of chaos, complexity, quantum, and dynamical systems theories.

Unpredictable Outcomes

Outcomes in any dynamic system cannot be predicted due to external and internal tipping points, emergent events and interactions, strange attractors, relativity, uncertainty, and other components described in chaos and complexity theory and general systems theory. No one can predict or plan the outcome of a student’s journey through college. However, in higher education one can be aware of what is happening to certain students, especially disaffected male undergraduates, and respond accordingly—not wait for the entire system of the university to catch up to the “tremendously diversified” and “accelerated” changes occurring in our society and world. Individuals can work to change themselves, and, therefore, change the systems in which they live.

Some things are certain—small changes can have significant impacts on higher education and disaffected male undergraduates: changes in the interactions and attitudes between faculty and students, in the classroom environment, in curriculum, in the paradigms and expectations of educational professionals, and in the community.

Recap of Major Findings

Disaffected male undergraduates in this study were or had been frustrated and disillusioned with their academic experiences and with prevailing academic practices. They felt forced to adapt, felt different from their peers, and found it difficult to stay engaged and motivated in all but a few of their university classes. They wanted changes *within* the university including alternative learning environments, interaction with their professors, and in their classes. They had personality preferences shared by only one to five percent of the general population, and had very clear to clear preferences for Intuition.

Implications and Recommendations

An overarching implication is that there is a call for a change in the way we think about higher education and practice teaching and learning. There is a subset of disillusioned, disaffected, and disengaged male undergraduates virtually unknown, ignored, or unattended to by their university. This study leads to several recommendations and is intended to stimulate even further reflection.

To provide greater support and incentives to disaffected male undergraduates, administrators and other professionals in higher education need to realize that *a single educational approach and pedagogy does not fit all learners*. Disaffected male undergraduates will benefit from *a greater variety in pedagogical approaches*, from *alternative learning environments and communities*, and from opportunities to rejuvenate and recreate away from school during *credit-producing sabbaticals*.

#1-A Need for Educational Change

As disaffection, burnout, and withdrawal from school continues, and as the incidences of depression increase on college campuses, we should perceive that the traditional way of teaching and learning does not work all the time for all learners—especially disaffected male undergraduates.

Edgar Allen Poe’s allegory for man’s mental and spiritual ruin may paint a picture of some male undergraduates whose academic experience is life changing, and it is possibly a metaphor for what sometimes happens to students in distress:

And travellers now within that valley,
Through the red-litten windows, see
Vast forms that move fantastically
To a discordant melody;
While, like a rapid ghastly river,
Through the pale door;
A hideous throng rush out forever,
And laugh — but smile no more.²

If they are lucky enough to have made it through their educational experience, some male undergraduates may emerge from their formal education as those travelers described by Poe: “Vast forms, that move fantastically/To a discordant melody” and rush forever out of the doors of the university, “And laugh—but smile no more.” If they manage to achieve “academic success” *and* to experience transformative learning, or quantum learning, how did they do it? When participants spoke of their experiences in higher education, they distinguished achievement and academic success from experiences of deep, joyful learning. Such separation is a sign that all is not well with the educational system and for some who journey through it.

² Edgar Allen Poe. *The Haunted Palace*. 1874.

The expected outcome of university experience, or getting a college education, is for one to learn and to be changed by that experience; learning changes people. Studying for the grade does, too, but not necessarily in a positive way.

Included in this section are implications and recommendations. It is not my intent to be prescriptive, only to offer some possibilities. The solutions and approaches to teaching and learning in higher education are complex, the environment fluid and dynamic, and ever-changing. An organic approach to teaching and learning best suits the dynamics systems in which we are all embedded.

Change must occur on multiple levels: the individual, university, community and family. But change, in this case, does not mean an “either/or” approach. Change means “both/and”; accommodating *all types* of learners, not one over the other.

A Single Educational Approach And Pedagogy Does Not Fit All Learners

Implication and Recommendation #1: There is a need for change in higher education—in the way we *think* about teaching and learning in higher education, and in the way we *practice* teaching and learning. To provide greater support and incentives to disaffected male undergraduates, administrators and other professionals in higher education need to realize that *a single educational approach and pedagogy does not fit all learners*. Then, they need to *apply and support* a greater variety of approaches. Disaffected male undergraduates will benefit from *a greater variety in pedagogical approaches*.

Discussion #1: There is no single answer, no one-size-fits all solution or way of thinking about increasing complexity, diversity, ways of knowing, and disaffection and

engagement on campus. Insights students shared may be slightly different from student to student, but some things hold true: Some male undergraduates are dissatisfied and frustrated with their university experience. Given ongoing information and statistics concerning depression on campus, *many* male students may be dissatisfied and frustrated with their university experiences, but are just not talking about their concerns.

A shift in paradigms is needed. In 1995, Barr & Tagg called for such a shift from “the Teaching Paradigm” to the “Learning Paradigm.” The Teaching Paradigm is alive and thriving in Newtonian organizations—the Western model of organization—, norm for educational organizations in the U.S. The Newtonian organization thrives on predictability rather than uncertainty and emergence, is hierarchical with top-down instead of bottom-up control, is non-relational, rule-bound, has set parameters, is impersonal, tends to resist change, and is *teacher-centered*. Producing students may be the main objective in a university that is teacher-centered and Newtonian.

Moreover, a mechanistic worldview values and rewards efficiency and product instead of flexibility, emergence, uncertainty, dialogue, and process. It creates and thrives on isolation, fragmentation, and control, unlike a quantum, or learning organization.

The Learning Paradigm that Barr & Tagg envisioned now nine years ago is *learner-centered*. Concepts from chaos, complexity, and quantum theories further enhance the ideas of learner-centered learning.

However, a paradigm shift from teaching to learning is difficult to make. Dominant paradigms are “not easily changed, due to the fact that teachers and administrators have been trained and students have been schooled within the old paradigm” (Boggs, 1996, p. xv). For example, the way students learn at most universities

is Newtonian: most classes are lecture classes, the professor has control of knowledge that he or she disseminates to students, so what students learn is ultimately decided by their professors. The content of curriculum is pre-designed by the professor, and the structure of the curriculum is decided before classes even begin, and the learning environment is the classroom.

Another concern is that the control inherent in Newtonian organizations may create an atmosphere of competition and fear, an unsuitable atmosphere for students who are relational and cope with stress by withdrawing. Such an organizational climate does not foster the belief that student learning is generally the central objective of all employees in the university. An authority and expert-based platform or context for learning does not work for all students. Those individuals who either prefer not or cannot learn in such restrictive conditions may either dropout, burnout, or simply disconnect before they ever complete their formal education. Parallel to chaos theory, hierarchies, power and control, teacher-centered style of giving information to students are the *initial conditions* of traditional teaching and learning.

Conventional Education Appeals To And Rewards The Dominant Personality Types Only

Another reason for educational reform is that *conventional education appeals to and rewards the dominant personality types only*. Students with specific learning patterns tend to group in specific academic majors and schools. For example, there is a predominance of Sensors Judgers and Extraverted Sensing Thinking, and Judging business majors, as previously mentioned. The disparity in personality types in majors is exemplified by the following:

The TRAILS project revealed that the concrete active (ES) pattern was the dominant pattern in schools of business, nursing, and allied health. The abstract reflective (IN) pattern was disproportionately represented in arts and sciences but significantly under-represented in nursing, where only 9 percent of the students scored as abstract reflective learners.

The educational system rewards students who are Sensors Judgers, SJs. Most classes are structured to accommodate transmission of facts in a linear way by one who is expert to ones who are not, to give the greatest number of students the greatest amount of information, to quickly and efficiently evaluate what they learn, and to get them graduated, making space for the next group of “learners.” A student with different learning styles may experience internal chaos as he tries to adapt.

It is a well-known and well-researched notion that different personality types need different learning opportunities. There has been myriad research on learning styles and how one might apply such information about learners with various learning styles in the classroom. According to participants in this study, however, their professors have infrequently applied such information in their classrooms, and taught to the majority preference.

Six of eight subjects in this study were INFPs and were relational and creative. Two were INTP and ENTP and were creative and valued critical thinking. All eight subjects had very clear or clear preferences for Intuition.

A Need To Acknowledge And Reward Intuition As A Way Of Knowing In Higher Education.

Intuition is not rewarded in higher education. In a university that values the student as product, students are rewarded for absorbing facts, making hurried decisions

based on those facts, and then acting on those facts and hurried judgments. “Get in, get by, and get out” seems to be the prevailing motto in these times of complexity and change. In fact, some universities across the nation are rewarding students financially if they can graduate in four years with a 3.5 GPA or higher to make room for the onslaught of incoming freshman. In my opinion, such a program of extrinsic motivation will further perpetuate shallow learning rather than the deep, meaningful learning necessary to engage students and will impede intrinsic motivation for male students with preferences for relational learning

Students with a preference for Feeling and are relational, who do not have the opportunity in class to connect what they are learning with their values and beliefs, will not experience deep learning, may not engage or may disengage, and become frustrated and stressed and possibly depressed.

Similar declines may occur in the lives of faculty who are Feelers—being forced to teach in a way that does not fit their preferred ways of teaching or accommodate their worldviews, values, and beliefs. Commonly faculty with Feeling preference receive little incentives to be more creative and innovate in their teaching styles. Administrators usually reward faculty only for the amount and frequency of their publications, or for the number of credit hours generated by student enrollment in their classes, or for making a name for their university through their research—research that is funded by powerful, influential organizations or individuals. Occasionally, administrators offer or support limited awarded for faculty who demonstrate exceptional gifts as teachers, but being creative generally does not win a professor such a reward unless his or creativity is associated with a product or idea that generates revenue or prestige for the university.

Also frustrated may be the unconventional administrators who want to create spaces to accommodate all learners but think they cannot do so due to external financial, political, and social pressures. Going with the flow is much easier, less stressful, and more rewarding than finding ways to change the flow.

Few Rewards and Little Encouragement for Being Creative—For Faculty or Students

To say or imply that most faculty do not care about students, are not passionate about teaching, or would themselves care nothing about change in higher education would be misleading. There *are* faculty who *do* care about students, who *are* passionate and enthusiastic about teaching and learning, and those who find *creative, innovative, and fun* ways to engage students. But even if they are so inclined, why should they take the risk? And it *is* risky to teach differently than the mainstream, by-the-book teaching style.

For faculty, the hierarchical, authoritarian, “expert” style of teaching is what is generally noticed and approved by those in positions of power at the university. Such a teaching style is outcome-based and standards driven, and contributes to “surface teaching” (Wilson, 2003, p. 25). Getting grants, conducting research, publishing, increasing the number of credit hours for the department, making a name for the university—that is what is rewarded in higher education in the form of salary, awards, or status.

In that style of teaching, students are containers, full of knowledge, ready to be employed or consumed in the job market, or to use a war metaphor, armed and ready for battle in the real world. For students, creativity is generally not rewarded in the

classroom. Providing space and opportunity for creativity takes time and may be difficult in large, lecture-based classes. Alternative learning environments, however, would provide space and opportunity for creative learning.

#2: Create Alternative Learning Environments and Communities on Campus

Learning is intellectual, social and emotional.
It is linear and erratic.
It happens by design and by chance.
(Stoll, Fink, & Earl, 2003, p. 24).

Disaffected male undergraduates in this study cared deeply about learning and had strong opinions on how they wanted and needed to learn: They preferred experiential, self-directed, collaborative, learner-centered, applied, and meaningful learning in a safe environment to the hierarchical, linear, transmissive style of teaching and learning they experienced in the majority of their classes. They wanted learning opportunities that extended beyond the classroom and beyond the professor. They needed and wanted alternative ways of teaching and learning that would accommodate emergence, process, self-organization, creativity, interaction, and critical thinking. They wanted a say in what they learned and how they learned it.

The ideal learning environment participants described involves experiential, self-directed, learner-centered, collaborative, active, and out of class learning. It would be welcoming, encourage whole-person development by providing space and opportunities for multiple and varied negotiated activities and stretch learning, is interactive, physically comfortable, and be a safe to experiment without judgment or penalty. There would be an

atmosphere of respect and caring. There would be no hierarchy—professors would be co-learners with students, not “the expert” telling students “all they need to know.”

Disaffected male undergraduates in this study were frustrated by their academic experiences and disillusioned by the disparity between their expectations for college and their actual experiences. Such frustration and disillusionment led to disaffection, disengagement, depression, and change in motivation. There need not be such a disparity between expectations and realizations on campus. There just needs to be more alternative learning environments that accommodate nonlinear learners.

Universities should create new alternative learning environments for students that are collaborative, experiential, self-directed, learner-centered, and peer led. Students should self-select into those environments.

Paradoxically, while faculty and administrators express interest in a shift from a teaching to a learning paradigm in higher education, the reality is that many administrators still see the student as a product, perhaps in response to economic demands of state government. Furthermore, due to financial cutbacks and a “giant influx” of “well-qualified freshmen,” administrators in higher education are concerned with getting already enrolled students in and moving them out of school, like an assembly line. Such a linear style does not address the complexities and fluidity of learning and human self-organization and growth. It is simply a “get them in and move them out” mentality.

Not only did participants want their professors to be committed to what they were teaching and care about their students, participants wanted classes to be different. Being

part of a learning community on campus provided a venue for engagement and a model for alternative teaching and learning for some participants, who stated:

[Name of learning community] classes have had the biggest impact of just how...that there is another way [of teaching and learning]. It doesn't have to be lecture and power point. You can learn just as much in a class setting like this. And, allowing other people to share their opinions and thoughts can be just as good to hear other opinions.

Learning outside the classroom changed me. [Name of class] was one of the classes I took—it was hands on.

[Name of learning community], the faculty. It's right up my alley. I stumbled onto it. Professor [name] said he thought it would be a good fit for me. He told me, 'You're not the run of the mill 19-year-old.'

[Name of learning community] That was experience I really liked and was interested in. But, I felt different than everybody else in class. I felt like I had something in common with you and [name of other professor], but not anyone else about anything.

Participants in this study wanted and needed a space where diverse learners can thrive, especially those with different personality preferences than the general public.

The participants in this study would be a good fit for Student-Centered Learning Environments because they were relational, self-directed, creative, intelligent, they already sought out alternative learning spaces, engaged when the topic and means of learning was meaningful and of interest to them, they wanted collaborative, self-directed, experiential learning. They wanted a place to practice and share their leadership skills, they wanted a space to learn that was different from the traditional classroom, and they wanted to be able to apply what they were learning, and internalize what they learned. They wanted supportive, safe environments where they would not be humiliated for any reason.

A negative affective tone “will inhibit learning” (Davidson & Worsham, 1992, p. 10). A physically and psychologically safe space means that the ideas of students “will be honored and valued and their failures will not be met with ridicule” (Davidson & Worsham, 1992, p. 106). As these concepts apply to elementary school children, they also apply to adult learners.

Learning is more than just learning by doing. Learning is learning by *being*. The way we think about and research learning has changed since the 1990s. Research

has focused increasingly on problem-based, project-based, inquiry-oriented pedagogies in the forms of open-ended learning environments, cognitive apprenticeships, constructivist learning environments, micro worlds, goal-based scenarios, anchored instruction, social mediated communication” and more (Jonassen & Land, 2000, p. vii).

The spark is there to think about and implement new ways of teaching, innovate ways to manage institutions of higher education, but the spark has not generally ignited the fire yet for many. Zohar & Marshall suggest

If...we want to change society, we must begin by changing the way that we think...Real social transformation requires that we change our basic *categories* of thought, that we alter the whole intellectual framework within which we couch our experiences and our perceptions. We must...change our whole ‘mindset,’ learn a whole new language. (pp. 37-38)

A shift in the way we think about learning must be actualized by a shift in actual learning environments—a shift from teacher-centered learning environments to student-centered learning environments (SCLE), and a shift to learning organizations.

Some of the differences in traditional instruction as compared to Student-Centered Learning Environments. Jonassen & Land (2000) list the following:

Instructional	Student-Centered Learning Environments
Transmission, acquisition	Interpretation, construction
Mastery, performance	Meaning making
External reality	Internal reality
Dualism, absolutism	Cultural
Directed	Intentional
Reductionist	Complex, self-organizing
Individual	Collaborative
Encoding, retention, retrieval	Articulation and reflection
Receptive, reproductive	Constructive
Symbolic reasoning	Situated learning
Laboratory	In situ
Objective	Experiential, interpretive
Independent	Emergent
Possessed	Distributed
Disembodied	Experiential
Atomistic, decomposable	Gestalt
Objective, stable, fixed	Subjective, contextualized, fluid
Compliant	Self-regulated

Table 13. Learning Environments (Jonassen & Land, 2000, p. viii. Partial listing)

For some male undergraduates, as I have discovered, getting involved in various learning communities kept them in school, and, most importantly, helped them become the learners and persons they wanted to be and *should* be. One respondent described his experience in a learning community:

[Name of learning community] helped me to make sense of things, and lifelong learning. I realize learning is a lifelong experience and at a different level than your college education. I guess I put a lot more value on learning now.

If there were more learner-centered, self-directed alternative environments and communities on campus where undergraduates, especially male undergraduates, could actively co-create their learning environments with faculty, have a voice and be heard, express their creativity, develop their critical thinking skills, and equate learning with academic success through an evolved evaluation process, disaffected male students

would become less disaffected and more engaged in their learning. They might even choose an early graduation because they *wanted* to, not because they were offered monetary gains to do so.

Because of the hierarchical, transmissive style of teaching, set boundaries, and limited choices, limiting space for self-organization and emergence, formal education, in current practices, contributes to chaos in some students. Students who prefer the linear, hierarchical, bounded system that describes formal education in generally flourish. Others will not. Alternative learning spaces may be considered interventions for those in administration, psychology, or sociology. Alternative learning spaces as complex dynamic systems spaces accommodates the temporary and fluid order inherent in chaos theory. They allow space and create opportunities for whole-person development, and for a moment of synthesis and engagement for some students.

#3: Credit-Producing Student Sabbatical

Implication and Recommendation #3-Disaffected male undergraduates needed and wanted time *away* from the university to self-organize and to re-create themselves; Many took time away from their university to explore, study, or rejuvenate elsewhere; that is, they moved to other states, enrolled in other schools, traveled, or withdrew from their university. *Students should have the opportunity to embark on a credit-producing Student Sabbatical.* Undergraduates, especially disaffected male undergraduates, should have the opportunity to take a student sabbatical during their academic journey, to have a space for renewal, self-organization, exploration, and emergence. University administrators should provide such a space by incorporating the time into student curriculum *as an option.* Not

only should this time be penalty-free for students, they should receive academic credit for this journey of renewal.

Student sabbaticals, or vision quest, should be self-directed. Study abroad programs provide students myriad opportunities for new experiences, but study abroad programs are still designed by someone else, not the student, and they're not self-directed. Students may embark on a quest for discovery and wisdom through a study abroad program, but not necessarily one of their own. There are opportunities for exploration, but it is not the same as embarking on a self-directed journey for self-renewal.

Discussion #3: In the mid-seventies, Humberto Maturana and Francisco Varela, South American biologists suggested the idea of self-creation, or autopoiesis; the notion that systems (including living organisms), constantly create themselves. Psychologist Alan Combs (1995) says "autopoietic systems do not simply maintain stasis in the face of changing external conditions; they dynamically recreate themselves" (p. 26-27. Human experience is "a process in flux rather than a fixed event, more of the nature of rippling water than of the rocks over which it flows" (Combs, 1995, p. 26).

Spending time away from usual everyday activities and the same set of stressors, moving toward new experiences, new opportunities, and new ideas is a form of self-renewal. Faculty take sabbatical leaves for a period of time to rejuvenate, to create, to re-create themselves, and to spend time exploring. Not only do faculty generally go without penalty, they receive pay.

Vision Quest

A tradition in Native American culture encourages adolescents to embark on a vision quest, a return to nature to connect with their spirit and to seek truth, inner revelations, and profound meaning. Preparation for the journey included cleansing in a sweat lodge, guidance from a Holy Man, and going to a certain spot, often a mountain, where they stayed several days without eating or sleeping. Often there was a vision, but its relevance might not be understood for years. If the meaning of the vision was unclear, the individual on the quest often spoke with a Holy Man to uncover its possible meaning and relevance to the seeker.

Experience A Vision Quest Before Coming To College

One participant revealed that he had visited several countries before attending college. What he saw and experienced on those trips affected him emotionally and psychologically. He suggested that such trips would provide an opportunity for potential students to see how others live and to realize that they [the students] are privileged because they live in a country of opportunities and where freedom is key:

But with the sense of maturity and learning, you see these people who live below poverty, or at poverty level, you feel emotional because what you have and what they have completely different...made out of completely different material. And by living in their footsteps or living at their time, you learn to appreciate that what they have and what you have. You shouldn't take for granted what you have

“I constantly refer to it,” he said. “It was one of the best experiences ever. It keeps me motivated, too. I might do something like that again when I've finished with school.”

Exploring others cultures and environments prior to coming to college might help prepare students for college by making them more open-minded and change the way they view themselves.

Vision Quest as a Self-Directed Class Experience

The concept of a vision quest could easily be incorporated into academics. A vision quest experience might be similar to an independent study where a student is guided by a professor, but with more freedom to select place and space, with financial support if necessary provided by the university, and receiving academic credit for it. It would be a synthesis of independent study, study abroad, and vision quest. It would also be perfect fit in environmental studies programs where the assumption is that one is interested in nature.

When asked if taking time off from classes should be mandatory, one of the interviewees who left the university for a year to take classes in another state responded,

In Ireland, students take one year off before going to university. I think it should be presented as an option and as a benefit, but not something that should be a requirement. That's inflexible—it doesn't personalize the path or process.

Within The Classroom

Faculty could include a space for a type of vision quest in their classrooms. It could be through allowing a student a certain period of time when he or she is NOT to come to class, but to spend the equivalent time reflecting, questing, exploring, re-creating with some type of accountability built in, perhaps a written journal, photo journaling, poetry, art, music, any preferred expression. Each student might use a specific day or

days during the semester, where he or she could take time to re-group, de-stress, seek truths, and connect with nature. Or, the entire class could take the same day to go somewhere and each find a spot to reflect, interacting with others if desired, or not. Time away would be experiential, self-directed, active learning, and *not a* retreat or a field trip. *Only* the student would assess and evaluate his experiences during time away, but evidence of reflective process would be shared with chosen faculty, advisors, or colleagues. Time away would be time for new experiences and reflection, *not* extra time to go to work, to run errands, or to perform other non-related chores.

Some organizations already use the Native American practice of a vision quest. An organization called “VisionQuest” was created in 1973 to help at-risk youth and “to provide effective alternatives to incarceration and early intervention programs to keep youngsters out of the criminal justice system.”³ Universities could easily incorporate vision quests to provide effective alternatives to disengagement, disaffection, and depression.

Subjects’ motivation changed as a result of their leaving the university for a brief period of time, to re-engage, and to explore interests of their own choosing and creation. Changed was *their ability to cope* with what I believe to be some of the unnecessary stressors at the university. They also discovered a creative, boundless, open space to be who they were striving to be, where their leadership abilities were put to use, what they could be free to learn.

³ http://www.vq.com/overview_home.htm

Concluding Thoughts

Education As Both/And, not Either/Or

The recommendations suggested in this study do not call for the elimination of traditional classrooms that are geared toward the personalities of the majority of students. Instead, the recommendations are a call for additional learning opportunities for disaffected male undergraduates, and undergraduates in general who have learning styles that are different from the majority of students.

Extrinsic Motivation And Disengagement

The issue of extrinsic motivation and disengagement is an important aspect of connected learning. In educational systems that emphasize and reward the grade instead of the process of learning, getting a high grade becomes the motivation to learn and to persist in school. Extrinsic motivation does not encourage *deep* learning, instead it promotes *shallow* learning.

Sternberg (1995) suggests, “extrinsic motivation undermines intrinsic motivation,” and believes that there is “a negative relationship between extrinsic motivation and creativity” (p. 239). Studies of school children by Lepper, Greene, & Nisbitt (1973) revealed that children who, after performing certain tasks to win an award, “lost much of their intrinsic motivation as a result of focusing on the award” (Sternberg, 1995, p. 239).

If students feel they must literally and figuratively “make the grade,” the motivation for learning becomes extrinsic. Students are rewarded for shallow learning.

not deep and meaningful learning, and learning becomes a means to the end, but not the end. The motivation for learning becomes getting a 4.0 and being an “academic success.” Such motivation wrings the passion out of learning and changes the love of learning into learning to get rewarded.

Such motivation created a dissonance and disparity between their perceptions of academic achievement and joyful learning in the participants in this study. All subjects unconsciously separated what they loved about learning and what they actually learned from interesting, rich experiences and interactions, from academic success. They did not equate being successful as a student because of what they actually *learned*, or did not include the *passion* and *fun* they experienced as a component of becoming a successful academic, because success in academia is measured quantitatively through numerical grades. Their passion for learning and for the myriad things they learned along the way was separate.

Distinguishing joyful, deep learning and academic success is a result of extrinsic motivation, in my opinion. As Sternberg (1995) suggests, extrinsic motivation “focuses people on goals rather than on paths to attaining these goals“ (p. 239).

Traditional higher education rewards the goal, the grade, and sees the student as product. When students are deeply connected to learning and the joys of learning, and are not in college simply to get a degree, such a process may deeply saddening and discouraging. For those who truly want and enjoy learning, it is the *process* of learning, meaning making, and engagement that is important for student happiness. That is what the university is *supposed* to support.

Emotion and Learning

Subjects in this study wanted to have a voice, and they wanted their voices to be heard. They wanted to feel as though they were part of a family and a community, and in a safe space; to find a smaller, cozier niche in a seemingly cold academic environment. Subjects wanted to participate in how and what they learn, and creates a sense of stewardship, ownership, and connection. When students have an active, not only vested, interest in their learning journey, they may become more motivated and engaged.

Learning takes place both in an out of the classroom. Sometimes what one learns does not really register until years later, having percolated in student's mind until the just the right moment—"studied now, realized later," as one student put it. Students connect emotionally to their learning environment. They want to feel safe when they learn: They want to be able to explore and take risks without fear of humiliation and rejection. They want their professors to be enthusiastic in their teaching—to be passionate about what they learn and to be encouraging. They do *not* want the kind of teacher Foucault (1974) sardonically describes:

It's quite an achievement the way teachers manage to make learning unpleasant, depressing grey, unerotic! We need to understand how that serves the needs of society. Imagine what would happen if people got into as big a frenzy about learning as they do about sex. Crowds shoving and pushing at school doors! It would be a complete social disaster. You have to make learning as rebarbative if you want to restrict the number of people who have access to knowledge (p. 52).

Still Here

Participants in this study mentioned having a supportive family and being involved and connected in learning communities. Those are some of the reasons I was

able to interview them—because they are still *here*. If it were not for their supportive families and their finding spaces in a large university that accommodates their diverse learning styles, I would not have had the opportunity to even talk with them, and they probably would not have had the opportunity speak about their experiences and to be heard.

The Metaphor Of Boot Camp: Getting Students Ready For The “War”

The boot camp metaphor typifies areas of higher education, if not the entire entity of higher education. In business, competition is key—getting there first, getting it done first, manufacturing the most, the best, the useful product is important because such products generate financial rewards. In the military, one finds hierarchy, an expert, authority figure telling individuals what to do, how, when, and where to do it, tearing individuals down psychologically and physically to be rebuilt and brainwashed; compelling individuals to do someone else’s bidding without thought to consequence. IN school one find students being prepared for the war of competition, competition, production, and success.

To some people with specific personality types, such an environment is exciting, stimulating, and challenging. While keeping an eye on the prize, they quickly absorb facts and figures for a time, come to quick conclusion, and then take action. They study for the test, and then forget everything they learned. College is just a stepping-stone to the lucrative job, the power and status that can be had in big business if one only can clamor to the top. The television series, *The Apprentice*, is testament to the rewards one can attain if one can be the smoothest, the brightest, the most aggressive—no matter what the cost is physically, psychologically, or emotionally.

Yet for others, such an environment is damaging, strips students of their identities, making deep reflection impossible, takes away time and space for critical thinking and creativity, and authenticity. The enlistees have no voice, no say in what happens to them, they go through the motions, trying to remember it is only boot camp and will not last forever, “Chin up, chest out, take the orders,” and then hope they survive until training is over. One option is to become a conscientious objector. But then one is *forced* to withdraw.

Organizational Change and Complexity

On a broad level, there is the obvious disconnect between linear kinds of organizations and increased complexity and fluidity in Western society today. On a community level, we need to explore the extent to which our college students reflect our communities and society in general.

Also at the community level, one must consider how parents of male children are raising them, how they might encourage males to be more expressive and comfortable in expressing their emotions? Expressing their emotions is therapeutic and natural. As one interview declared:

I've been showing a lot of emotions and feelings to others. It frees me up.
I've never done that much.

Once males are reassured that expressing their emotions is natural, they may experience less stress and fewer problems because of that stress in general.

Conventional education cannot be transformed into satisfactory education because it is a stable system. And there is no impending revolution.

There has been no great change in higher education because the system of higher education is in equilibrium (Marchese, 2001):⁴

In spite of impressive resources directed toward undergraduate reform in the past 30 years, no revolution (a quantum change in results) has occurred. There can be no revolution, because the current system is in a stable state. Furthermore, until the whole system is changed, beginning with graduation requirements, there will be no further substantive improvement.

Other proponents of change are also doubtful that there will be an undergraduate revolution any time soon because incremental improvements are linear, and therefore ineffectual; not chaotic and on multiple levels as occurring in dynamic, organic systems (Mullin, 2001):

Weaving incremental changes into the existing stable system of undergraduate education cannot result in significant improvement. Why? It is precisely because most pedagogical, curricular, and other educational reforms are aimed at partial and incremental improvement of a stable system that they will continue to fail. From a systems-theory point of view, it is folly to expect substantial improvement in outcomes from an obsolete and stable system. (p.54)

While many may *agree* that educational reform is needed, knowing that our world has changed over the past hundred years, our lives are more complex, and the environment dynamic and turbulent, *there is an unnecessary lag between knowing and doing in higher education.*

Administrators, faculty, staff, community members, public officials, families, and others who impact students to a great extent should take this bifurcation seriously, and ask themselves, “What can we do to create interactive, relational learning environments where a college education is a moment in the process of lifelong learning where students can experience passion for learning.

⁴ Cited in Mullin, R. (2001). The undergraduate revolution. *Change*, 33(5), New Rochelle, NY. September/October. 54-58.

where they can be engaged in the process, have opportunities to apply what they are learning to real-world situations, where they are rewarded for their creativity, their critical thinking skills, their own wisdom and experiences? How might we transform classes as “boot-camps” that prepare students for “war” with faculty as “drill sergeants” and the resulting product of students as brainwashed, mainstreamed, and soldiers with weapons in hand?

When students feel compelled to drop out of school, burn out to the extent that they fail their classes, and are completely disillusioned with the educational system and their educational experience, it is time administrators, faculty, parents, peers, and the students themselves, ask why this is happening. Having open conversations with others and then actually implementing ideas and strategies might make the educational experience satisfying for *all* students.

Fear, Doberneck, Robinson, Fear, & Barr (2002) offer the following invitation to those who wish to see change in higher education:

We encourage you to experiment. Bring together teams of students, staff, faculty, administrators, parents, residents, public officials, and employers. Tell the teams: “We want you to create a variety of ways to stimulate ‘deep learning,’ undertaken so that any means is self-renewing. That way, we can constantly improve our effort and outcome.” Tell the teams that they need not be constrained by any of the rules or regulations they have grown accustomed to in higher education. Make sure they understand their charge: this is not about fixing what isn’t working. Challenge them to be “practical visionaries,” to create fresh and forward ways of enabling deep learning. (p. 167)

Relational and holistic learning is not generally acknowledged, encouraged, or rewarded at a university that produces graduates. There is a lag between how many universities are structured and what students need today. The world has changed, is more complex and chaotic—the needs of many students have changed.

Transformation at Multiple Levels

The only proper action is creative subversion of the whole educational system.

Change in higher education will not occur incrementally, with one group making a small change here and there, although that is a start. Meaningful change will only occur on multiple levels: with students, with faculty, with administrations, and with community and family members because universities are an inherent part of its community and its society. Universities are holograms of the society in which they exist. As Bohm (1998) compares the hologram to quantum theory, the university is a representation of the community and society:

If you look at the mathematics of the quantum theory it describes a movement of just this nature, a movement of waves that unfold and enfold through the whole of space. You could therefore say that everything is enfolded in this whole, or even in each part, and that it then unfolds. I call this *implicate order*, the enfolded order, and this unfolds into an *explicate order*. The *implicate* is the enfolded order. It unfolds into the *explicate order*, in which everything is separated. (p. 105)

In other words, the university is the community, and the community is the university. In Bohm's *implicate order*, "everything is thus internally related to everything, everything contains everything, and only in the *explicate order* are things separate and relatively independent" (p. 105).

It is not my intent in this study to be prescriptive. No single approach will suffice to address the complex issue of disaffection, disengagement, and discontent in higher education of male undergraduates. Moreover, each learning environment is unique, and the students who come to that learning environment are unique, even while having identical personality types.

However, insightful, bottom-up approaches on multiple layers in multiple systems in which the student is embedded as indicated earlier in this dissertation is a beginning.

The multiple layers include the:

- Macrosystem, or broad historical and cultural events or experiences
- Exosystem, or social networks, local government, and places where parents work
- Mesosystem, such as day care centers, school, peer systems; and
- Microsystem, or home, family group—mother, father, child, siblings (Obiakor et al., 2002, p. 102).

First Steps

Begin With Dialogue, Embrace Emergence, Uncertainty, Dissonance, And Notice Strange Attractors.

Steps university administrators, the state government, local communities, families, , faculty and students alike can take are to begin a dialogue with each other to:

- Find out what the “initial conditions” are for their male undergraduates.
- Talk about what creates the “dissonance and turbulence” in their lives that, while prompting creativity, self-organization, and self-knowledge, may also be destructive
- Provide open spaces to learn and for self-authorship where students can feel secure, empowered, where their voices are heard and acknowledged, where they may study topics of interest, and have a say in how they want to proceed to learn about those topics.

- Realize that the world is changing, that there is little room and time for inaction. Talk about and begin practicing innovative methods, ideas, ways of seeing and thinking about teaching and learning.

Administrators, faculty, and other educational professionals at each university should learn more about their students on a qualitative level instead of merely a quantitative level: see and know them as people instead of just numbers. Some schools are trying to support students who are in a state of chaos, but take an “outside-in” approach. That is, they may feel they know what is best for students without actually *asking* students

Action Administrators Might Take

Administrators are pressured by continual budget cuts, demands for space for the press of incoming students, but there are small changes they might make to encourage faculty to be more creative in the ways they teach. Although there are current rewards for publishing papers, attending conferences, and other concrete evidence of faculty production, administrators could reward faculty for less tangible activities such as being creative in the classroom, trying multiple teaching practices, and being more student-centered in their pedagogy. They might reward faculty for being creative, student-centered, and innovative in their teaching styles.

Administrators might encourage and fund student centered learning communities. Based on what students said in this inquiry, being involved in student-center learning communities has kept them in school, has made them happier, has provided unique

opportunities and experiences for learning, and as acted as support systems, a little communities embedded in a large university.

Actions Faculty Might Take

While discussing the topic of this study with a faculty member and an advisor of undergraduate students, and speculating how faculty might identify male students who failed to engage in classes or who seemed dissatisfied with aspects of their university experiences, a faculty member stated, “I can identify them. They are the slackers.” None of the subject in this study was a “slackers.” In fact, they were quite the opposite: creative, highly intelligent, leaders, critical thinkers, were relational, adaptive, and intuitively knew there was a better way to learn for them than the way they were forced to in their traditional classes. Having faculty talk about their views of students who don’t fit the one-size-fits-all mold might be a tipping point for change in their attitudes. At the very least, it will bring their attitudes towards these students to consciousness and the awareness of others.

Faculty members, like the participants in my study, might also feel the current educational system impedes their creativity, energy, and motivation to teach through the current reward systems, possibly overextended due to having to teach more classes to compensate for the impacts of budget cuts at the university. They might be one of the “wounded leaders” described by Ackerman & Maslin-Ostrowski (2002).

Faculty members may be pressured, overworked, and may feel under rewarded for their efforts. In an institution where research is what is valued and rewarded, competition is stiff, and there is a push by administrators to graduate students, faculty

may not feel any incentive to make any extra effort to be more engaged with students or to try new teaching practices.

Some faculty may set up an invisible wall between themselves and students. For example, one student described a professor as passive-aggressive towards students, especially females, holds office hours off campus in a public restaurant, and yet claims to be sensitive to the needs of children. It does not take much for students to realize that some professors are not student-oriented and consider their own research a priority, and teaching secondary and required.

Luckily for students, there are some professors who are very caring, student centered, and creative in their teaching. They love teaching and sharing knowledge, and develop multiple ways to encourage creative, critical thinking in the classroom. They use humor, creativity, reflection, encourage critical thinking through reflection, discussion, and experience. They readily give up some of their control in the classroom, bring in experts from other areas to demonstrate other ways of thinking about complex issues. They simply love teaching. They care about students, what, how, and why they learn.

Faculty might consider adjusting teaching style and curriculum according to the learning styles of their students, what they want to learn, how they want to learn it. They might begin to practice experiential learning that provides space, fuzzy boundaries, is learner centered where students may pursue their interests.

The business of producing students leaves little room for fun. It is a war out there—competition is stiff, jobs are being outsourced, Taking risks in the classroom may be more comfortable for those professors who are tenured, experienced, and confident.

Being creative is not easy. To be creative and to try innovative teaching methods in the classroom, one must know about alternate ways of teaching. They must be informed, proficient, open to new ideas, take feedback from students to make changes in the curriculum, changing the way they evaluate students.

Teaching by the book is simple and easy. One could just follow the steps and move from dot to dot. As one professor commented during a meeting, “Just give me the textbook and I can teach any class on campus.”

Faculty should be rewarded for being creative and innovative. As shallow learning is studying for the exam—shallow teaching is teaching to the text instead of creating knowledge with students.

Faculty could make small changes that have large impacts on their students and on themselves. They might consider the questions, “How might I help a student become more engaged in the learning process and foster whole-person development? How might I help provide intellectual, spiritual, and emotional space for students in my classroom, through my teaching pedagogy and my methods of evaluation?”

For example, Kuhlman (1994) describes his attempts to rectify the “frenetic pace” technology has created in schools by making the following changes in his curriculum. It was not met with open arms by administration. Kuhlman says he

Suggest[ed] we suspend classes for twenty minutes each morning and afternoon, and provide a schoolwide ‘coffee break’ during which students, faculty, and staff could mingle, converse, relax, and engage each other in nontask activities. It would have untold benefits...I would certainly break the maddening pace; it would defuse antagonisms...it would provide a hiatus when there were no expectations; nothing had to be managed or controlled. ...This timeout would allow for social interaction or personal introspection. (p. 39)

His plan “was vetoed” by the administration because it was “neither efficient nor productive” (p. 39).

Actions Community Leaders and Family Members Might Take

Community leaders need to be supportive of students. Local businesses and institution could offer jobs, internships, encourage students to participate in local projects. Families of students need to be supportive of student wants and needs, be willing to talk about student frustrations encourage students to think about what will make them happy.

Actions Students Might Take

Students can begin to talk to others—hold conversations about issues and challenges in higher education. They can speak up, talk to administrators about their problems and wishes for the university. Students can make their voices heard about the kinds of classes they are forced to take—the structure, the environment, the lack of freedom to learn as they prefer. They can suggest changes they would like to see.

Filling out SIRs forms is not enough—subjects in this study did not believe that anyone actually reads those forms, are “too tired to fill them out after exams; no one ever looks at them, anyways,” or may “forget about some of the things that occurred in the classroom over the semester that did not sit well with them, just writing up what came last, and that is usually good in anticipation of students filling out the forms,

Like the example Axelrod (2000) offered, people only have power because others, or the followers, acknowledge that power. Like Schroedinger’s cat, where the cat is alive

or dead only after someone looks in the box, the power of the university only has its power because certain students acquiesce to ways of learning that seem unnatural to them.

Using the metaphor of the military (boot camp, getting ready for the war), “officers had the power to give orders, but that enlisted personnel had the power to choose how much orders were carried. Orders could be carried out to their full intent, or not at all” (p. xiv). Students can refuse to “carry out the orders” of learning in a classrooms that cause them stress and undo frustration, and learning environments and learning approaches that alienates them or encourage disengagement.

Natural Systems

Students and faculty should have the opportunity to experience higher education as a natural system. Talking to students to hear their stories and experiences, to learn how they cope with the stresses of academic life is simple and important. The tendency on campus, I suspect, is to “blame the victim”. To continue the war metaphor referred to earlier, I see some students as victim; held hostage the hierarchical structure created by administration, by some faculty’s teaching styles, content of classes, and, to some extent, his own preferred learning style.

Future Research

Future research on disaffected male undergraduates might include additional components and layers:

- Interview both male *and* female undergraduates from all departments on campus to discover if they have similar perceptions, strategies, concerns,

and frustrations with their academic environment as the disaffected male undergraduates in this study.

To gain greater insight into the complex dynamics of the process of learning, engagement, and disaffection, a future research project would also include interviewing groups of people other than undergraduates on other levels of the systems in which students are embedded, including faculty, undergraduate advisors, staff, administration, family members, and community members. An extended population would provide a more inclusive view of the issues of disaffection, disengagement, and burnout. They include:

- *Advisors of Undergraduate Students*-Advisors of undergraduate students have insights into the lives of students that others at the university may not have—providing students come in to see them. If they are the kind of advisor who truly cares about the well-being of the students, he or she may have innovative ideas on how to encourage student engagement.
- *Staff* -In many departments and learning communities, students have ongoing relationships with staff members, often spending time chit-chatting about their everyday lives—the small talk that is so revealing.
- *Community, Family Members, and Peers*-Interviewing additional groups of people in the university community or home community of the student would provide yet another layer of information and insights into the lives of the male undergraduate or all undergraduates. Talking to members of students' families, their peers, and their friends would illuminate and reveal students who are disaffected, their culture, and ways of knowing.

- *Faculty, administrators, and state officials* to gain insight into the pedagogies, perceptions, motivations, strategies, and attitudes underlying their actions, behaviors, and policies

Research topics of interest emerging from this study:

- Investigate depression on campus and its links including personality preferences, academic paradigms. Given that INFP, INTP, and ENTP male undergraduates have different personalities and learning styles than is generally provided for in the traditional classroom, males in general respond to stress differently than females, and that depression on campus is at an all time high, further research should be conducted to explore the connections between personality type in males and increased depression on college campuses nationwide. An unintended consequence might be that as depression on campus decreases, students may become more engaged and eager to learn, less stressful, dropout rates may decrease.

And Then?

A moment in time but was made
 Through that moment; for without
 The meaning there is no time,
 And that moment of time
 gave the meaning.

T. S. Eliot, *Choruses from "The Rock"*

Disaffected male undergraduates provided a look into the multiple layers of the educational and community system through their stories and experiences. Perception is

both a creation and a synthesis of the interaction between an individual and his environment and all those in it— feedback from others. This inquiry was framed through two sets of eyes: the participants, or male undergraduates, and mine.

It is my hope that others will gain a new awareness and appreciation for the chaos and complexity that is inherent in all dynamic, complex adaptive systems, including systems of higher education and human development. It is also my hope that those in power at universities will discover new applications of the concepts of chaos and complexity, and create spaces for alternative learning.

Such spaces are the physical, intellectual, emotional, and spiritual spaces to practice self-directed, collaborative, learner-centered, and experiential learning—learning that transforms and engages students, especially disaffected undergraduates.

The impact and results of learning in such spaces can be significant and memorable. Moments of unexpected synthesis of emotion, body, and mind, may emerge from interactions with natural learning environments to create a complete feeling of engagement and learning for students. Space, place, and an experience that touches the soul, the intellect, and the body merge to create the moment—the moment of total engagement and *flow*. One participant described *his* moment in a reflective essay, in a natural environment, away from the boundaries of a traditional classroom

I remember standing in the rainforest at night in the pitch black. No darkness is more complete, not even the light from a single star can penetrate the dense canopy. Robbed of the sense of sight, just listening to and feeling everything about me, never have I felt more a part of life and everything nor more humbled, yet also afraid. It wasn't that I was afraid; it was my ego that was fearful because it was in contradiction to my feelings. That was one of my best days.

Learning and self-organization in such spaces are “just the beginning” for some students. One participant describes his learning journey and his life, having found respite from the battlefields of the university in a student-centered, self-directed learning community on campus, where he found meaningful relationships with faculty and peers, created opportunities to express his creativity and his leadership skills, where he had a voice in what he wanted to learn and how he wanted to learn it, and where he was respected:

I would say that it’s just beginning. I’ve just discovered what excites me and what I want to do. I’m excited about what my future holds and where I can best serve my world and my community.

In this study, concepts from chaos and complexity theories illuminated the exploration of students’ experiences in school. Some of the bifurcations points students mentioned that were pivotal in their academic journey included changing academic majors, specific faculty who helped them, taking classes that were engaging, interesting, and challenging, finding a learning community that opened up many opportunities, taking time away from school to explore, reflect, and rejuvenate.

Participants self-organized after chaotic periods. Chaos and uncertainty ensued during the times students felt they had no control over things, when they were frustrated by classes that did not fit their learning styles or when there were no perceived applications for what they were learning, when they felt their values were threatened, and when they found a space for community. Students also self-organized when they found spaces to practice their leadership and critical thinking skills and express their creativity. Creative people *need* to be able to express their creativity.

Several participants achieved goals they set out to achieve despite frustrations, setbacks, uncertainty, and multiple responsibilities.

Appendices

APPENDIX A

Invitation to Participate

You Are Invited!

If you are a male undergraduate in environmental studies in your sophomore, junior or senior year, and would like to share your lived experiences, your frustrations, your strategies for coping in a complex and chaotic academic environment, and more, here's your chance!

I am inviting you to participate in a dissertation research project titled *Looking Into Chaos: Perceptions, Interactions, and Strategies of Male Undergraduates in Environmental Studies*. My dissertation committee and the University Committee on Research Involving Human Subjects (UCRIHS) have approved my study. I frame this inquiry using concepts from chaos, complexity, and dynamical systems sciences.

What's the purpose of this study? The purpose of this qualitative inquiry is to learn about the academic and social experiences of male undergraduates in environmental studies including their frustrations, stressors, joys, interactions, and changes they may wish to see in the university, and potentially to prompt change in higher education.

Here's the scoop: I will interview you twice. Each interview will last about an hour. I will also invite you to express your thoughts, feelings, or experiences through music, poetry, drawings, writing, journaling, or photography.

Why should you volunteer to participate in this project? Your voice will be heard and honored. You will be able to share your experiences, frustrations, strategies, philosophy on teaching and learning, social interactions on campus, your interactions with faculty and your peers. You may be relieved to know that others may have experienced or are currently experiencing similar situations. Your story may also prompt change in higher education.

When? If you wish to participate in this study, please contact me by September 30, 2003 to indicate your interest. I will arrange the interviews around your schedule. Just hit the reply option on the e-mail.

All data and information will be kept **confidential**. No one except you and I will know you are participating in this study. I will use no names or identifiers in the analysis of the data or in the final write up. Your participation is entirely voluntary—you may opt out of the study at any time without any penalty. You may read any data generated prior to the write up.

If you have any questions about this study, you may contact your advisor; the researcher, **Carole Robinson**, Doctoral Candidate, Resource Development, 329 Natural Resources Building, MSU, East Lansing, Michigan, 48824, by phone: (517) 881-2180 (cell) or by e-mail: carolero@msu.edu; or my committee chair, **Dr. Peter Kakela**, 327 Natural Resources Building, MSU, East Lansing, Michigan, 48824, by phone: (517) 353-0803 or by e-mail: kakela@msu.edu.

APPENDIX B

**Informed Consent Form for the Dissertation Research of
Carole F. Robinson, Doctoral Candidate,
Department of Resource Development**

Title: *Looking Into Chaos: Perceptions, Interactions, and Strategies of Male Undergraduates.*

Dear _____,

You are being asked to participate in a study of male undergraduates in environmental studies. The study is a dissertation research project. Each male undergraduate will participate in two open-ended interviews emphasizing how they perceive their academic experience, who they interact with and why, and how they cope with change, frustrations, and stress associated with being a student, or anything else they wish to talk about. For example, a student may want to talk about his preferred teaching and learning styles, his interactions with faculty and other students, his interactions with his peers and family, classroom curriculum and environment, social opportunities, campus environment, or any challenges or frustrations.

Also, each participant will be invited to take, free of charge, the Myers-Briggs Type Indicator Step II (MBTI-II) and the Fundamental Interpersonal Relations Observation-Behavior (FIRO-B). Alpha-numeric coding will replace participants' name on the sorters to ensure confidentiality. Each participant will receive, verify, and discuss information about his personality preferences, learning styles, and interpersonal wants and needs. Taking these sorters is entirely voluntary. Each sorter takes about twenty minutes to complete.

Summary: The purpose of this qualitative inquiry is to gain understanding of the academic and social experiences of the male undergraduate student in environmental studies, to learn about the perceptions male undergraduates in environmental studies have of their experiences, how they cope with change, the stressors and joys of academic life, and what changes they may wish to see in the university.

Time: There will be three interactions with each participant. Participants will be asked to participate in two non-structured interviews that may be taped. Each interview will take about an hour. Participants will also be invited to express their thoughts or feelings with the researcher through writing, drawings, poetry, music, photographs, or journaling.

Confidentiality: To help ensure confidentiality, names will not be connected with data either in the analysis or the final write up. Participants may read any data generated prior to the write up. An alpha-numeric code will be used for data, and the corresponding names and data will be kept in a locked file. Only each student and this researcher will know who is actually participating in the study.

RISKS AND BENEFITS

Risks

There are minimal risks associated with this research. Potential risks include breach of confidentiality regarding participants' personal comments about their perceptions of their academic experiences. Every precaution will be taken by this researcher to ensure confidentiality. The privacy of participants will be protected to the maximum extent allowable by law. Participants may feel slightly uncomfortable sharing their personal feelings. Every effort will be taken by this researcher to make this experience as free of tension as possible.

Benefits

Participants will have an opportunity to talk about their academic experiences and to have a potential impact on change in higher education. They may also feel relieved knowing that other male undergraduates may have similar experiences and feelings.

VOLUNTARY PARTICIPATION

Participation in this study is entirely voluntary. You may choose not to participate in all or any portion of the project, and you may terminate your participation without threat of penalty or coercion at any point in this research. It is hoped, however, that you will participate to the fullest extent possible. To insure that the results will remain confidential, your name will not be released in any way during the research or in the write-up of this research and an individual's identity will not be revealed by the researcher, unless with prior permission.

CONTACT INFORMATION

If you have any questions about this study, please contact the **Investigator**: Carole Robinson, Doctoral Candidate, Department of Resource Development, 329 Natural Resources Building, Michigan State University, East Lansing, MI, 48824, by phone: (517) 589-5576 (home) or (517) 881-2180 (cell phone), fax (517) 353-8994, e-mail: carolero@msu.edu. You may also contact the **Responsible Project Investigator**, Dr. Peter Kakela, 327 Natural Resources Building, Michigan State University, East Lansing, Michigan, 48824, by phone: (517) 353-0803, fax: (517) 353-8994, or e-mail: kakela@msu.edu. If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact— anonymously, if you wish—**Ashir Kumar, M.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS)** by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

You will receive a copy of the signed consent form for your files. Your signature below indicates your voluntary agreement to participate in this study.

NAME

DATE

SIGNATURE

APPENDIX C

INTERVIEW PROTOCOL

Interview #1

Participants had the option of having a copy of interview questions. Some participants already had a copy of the questions for Interview #1 because they wanted to see them before the interviews began. Others wanted to be surprised and to respond freely to the questions. Interview #1 began with an introduction of myself and a brief description of the study. I read the consent form with each participant and asked him to sign two copies—the second copy was for his own records. I reminded each participant that he could withdraw from the study at any time without penalty, that he could refuse to answer any question he chose, and that he could stop the interview at any point he chose. I invited each participant to choose his own code name to promote confidentiality. Five participants provided code names; the other three asked me to think of one for them. I informed each respondent that he would have the opportunity to add, delete, or change anything on his transcripts of our conversations. All respondents had the same set of questions for the first interview. The interviews were held on campus; interviewees choose where they were interviewed. None of the first interviews were taped.

Interview #2

I reminded participants not to answer any question that made them uncomfortable. Each participant had the opportunity to add, delete, or edit anything from the first transcript. Seven participants interviewed twice. One participant interviewed just one time. Four interviews were not taped, but three of the second interviews were taped to promote clarity, correctness, and efficiency.

APPENDIX D

Interview #1 Questions

The following are some concepts from chaos and complexity theories. These concepts are inherent in dynamic systems, including human systems. I use them to frame my exploration in the perceptions, interactions, and strategies of male undergraduates in Environmental Studies. Questions for Interview #2 will be designed from the results of Interview #1.

Question 1. Sensitive dependence on initial conditions: In chaos theory, sensitive dependence on initial conditions describes how vast changes may result from minute initial differences, also called the butterfly effect. In psychological research, the initial condition is when the research begins, so we will begin with your description of yourself.

- a. How would you describe your current conditions, experiences, interactions, relationships, or frustrations?
- b. Are these conditions, experiences, interactions, relations, or frustrations different from when you first came to [this university]? In what way?

Question 2. Bifurcations are tipping points or sudden reorganizations—moments when powerful systemic events occur that create a change from preexisting conditions. They may be described as forks in the road. Bifurcations typically occur when a system is changing from linearity to nonlinearity (Coveney & Highfield, 1990). Another example of a bifurcation that Sally Goerner uses in *Chaos and Deep Ecology* in Frederick Abraham's *Chaos Theory in Psychology* (1995) is the transition between gaits of a horse—walking to trotting to galloping. From a walk, the horse starts moving faster and faster until the gait changes to a trot (p. 8). Still other examples of bifurcation may be the death or illness of a loved one, sudden changes in one's finances, loneliness, or the decision to change one's academic major.

- a. Has anything occurred that changed your worldviews, daily behaviors, habits, thoughts, feelings, interactions, or relationships since you first came to [this university]?
- b. What were those occurrences or experiences and how did they contribute to the change?
- c. How did these changes impact you?

Question 3. Perturbations— oscillations dissonance, uncertainty—“create dissatisfaction that is necessary for movement” (Peck & Carr, 1997). Nothing changes during times of complacency, sameness, or equilibrium.

- a. **Describe any experiences or set of circumstances that frustrated you, created a sense of dissonance, joy, happiness, or a feeling of unrest during your academic journey.**
- b. **Describe any experiences or contexts that you wanted to have but could not or did not have for whatever reason.**
- c. **Describe any experiences or opportunities that you had that were different from your usual experiences or opportunities.**
- d. **Have you ever thought about switching academic majors or have changed academic majors? Describe your reasons or motivations.**

Question 4. Strange attractors: Simply put, a strange attractor is something that attracts or repels—like a magnet—with boundaries, and stretches and folds, like kneading bread dough or pulling taffy, that creates a pattern. In *Turbulent Mirror*, Briggs & Peat (1989) define strange attractors as the turbulence that breaks up orderly systems and causes disorder in our environment. In *Strange Attractors* by Michael Butz (1999), Bruce Stevens defines a strange attractor as “the process that unfolds through the complex interaction between elements of a system...an idealized state toward which an unpredictable or dynamical system is attracted” (p. 69). This process creates a kind of map, or pattern, as the system cycles through chaotic and orderly phases.

Strange attractors have boundaries that limit their behavior, and are the foundation for the hidden order in natural systems. The behavior of a system, including human behavior, is organized around its strange attractors. For example, a strange attractor may be a specific person or group of people, social events, interests or hobbies, ideas, values, love, one’s personality preferences, or an academic specialization. As another example, there are organizing principles that limit behavior in families including “religious beliefs, cultural norms, family ‘myths,’ values” or other things that limit behavior (Stevens, p. 71). In college and universities, strange attractors may be specific faculty, peers, social events, certain classes, or other opportunities that emerge as a result of your academic enrollment.

- a. What or who have you been attracted to, been interested in, or interacted with since you came to [this university]?
- b. Please describe any thing or experience that “repelled” you
- c. Is there or was there any thing or experience you disliked, were frustrated by, or felt uncomfortable with?

- d. At what point in your academic career did these occur?
- e. How long did they last?

Question 5. Edge of Chaos—In *The Psychological Meaning of Chaos*, Frank Masterpasqua, et al, (1997) define the edge of chaos as the transition between order and chaos in complex adaptive systems (p. 304). This essentially means that when there is a “good fit” between elements of an adaptive system (prey and predator, mother and child, members of an organization), they “dynamically adapt to the transition between order and chaos and unpredictability (p. 305).

- a. Describe how you have adapted to college life.
- b. Describe any issues or concerns you currently have or have had in the past.

Question 6. Entropy, or passive chaos of entropy, as defined by John Briggs & F. David Peat (1989) in *Turbulent Mirror*, is “what happened when forms and systems ran down or ran out of the energy that had bound them together” (p. 22). Conversely, active chaos creates “form and life” (p. 22). Alison Carr-Chellman describes entropy in the educational system as “...the energy exchange that is key to substantive change in any social organization, although...counter-intuitive as is creating dissatisfaction with the current educational system” (p. 28).

- a. Do you see entropy in your educational system? If so, where?
- b. Have you ever experienced entropy as Briggs & Peat define it; that is, have you ever felt burned out, alienated or isolated, or simply out of energy from experiences associated with the academy? If so, please describe those feelings or experiences.

Question 7. Fractality, or self-similarity, is when something resembles itself across a range of scales. A coastline, trees, clouds, or a head of broccoli always looks like themselves regardless of the degree of magnification.

- a. How do you think your experiences, worldviews, perceptions, coping strategies, frustrations, opportunities, or desires compare to other males undergraduates in Environmental Studies programs?
- b. Do you think you may have similar experiences or concerns?

Question 8. Self-organization of a system "means that its order in structure and function is not imposed by the environment, but is established by the system itself" (Capra, 1982, p. 269). A system may self-organize and be far from equilibrium. That is, a system may self-organize into a chaotic state.

Alison Carr-Chellman (1999), referring to Capra's definition of self-organization, says "This is critical in that self-organization cannot occur in a system that is controlled by 'experts' and models of solution-generation." An example of a self-ordering, or self-synchronizing system is a group of cuckoo clocks. If one puts several cuckoo clocks on a wall with their pendulums swinging at different rhythms, eventually, the pendulums will all synchronize. At it swings, each pendulum sends out small waves, or perturbations, to the wall that pushes the other pendulums into a certain rhythm. Other examples of self-organization in the human system may include temperament, emotions, or cognitive styles, the brain and heart.

- a. Have there been periods in your academic journey where things have smoothed out, have seemed to become easier, or to make more sense? Please describe those experiences.
- b. Have there been periods in your academic journey where things have self-organized into disequilibrium? Would or could you describe those times?
- c. What do you think contributed to those periods of self-organization?
- d. Are there any areas in your academic life where you are controlled? If so, please describe them.
- e. If yes to A & B, how does or did that make you feel?

Question 9. Emergence is self-descriptive.

- a. Describe events, changes, patterns, or anything significant that has emerged during your experiences at [this university]. Has anything surprised you? What was the context?
- b. How did this impact or change you?

Question 10. The rest of your story . . . This is your opportunity to share your story about any aspect of your academic experience.

APPENDIX E

Interview #2 Questions

After personally transcribing the first interviews, emerging themes from Interview #1 shaped personalized questions I asked of each participant during the second interview, with the exception of four questions. The four identical questions for each participant in the second interviews were:

1. Is there anything you would like to add, change, or delete from the first interview?
2. If you could change anything at [this university], what would you change?
3. If you were a professor, how would you teach?
4. Would you describe your ideal learning environment?

APPENDIX F

DATA CODING KEY

Data were coded using the following key:

<u>Code</u>	<u>Source</u>
I/C	Interviews and Conversations
OC	Original Composition
Ph	Photograph
MSC	Music
FN	Field Notes
MJ	Methodological Journal
PP	Personality Preferences from MBTI

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