

MUSICIANS' LEARNING STYLES, LEARNING
STRATEGIES, AND PERCEPTIONS
OF CREATIVITY

BY

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CHAPTER 1

INTRODUCTION

Introduction

Music is everywhere. It contains all kinds of different levels and all kinds of different purposes. Radio, television, and the Internet have provided easy access for people to pursue their professional dreams. Star Search, Talent Search, American Idol, and Teen Search are only a few of the programs broadcasting a national talent search for the next professional superstar.

There are different ways to learn and teach music: formal and informal. Although this natural process of learning music is pervasive, very little is known about how individual differences influence the way people learn music and how their creative processes operate. There are numerous approaches to learn music. However, the relationship and influence of learning styles, learning strategies, and creativity when learning music is not known.

Creativity

To create is to select or invent elements significant to a given purpose and organize them into a new and unique form. It means originality. It means individuality. It means freedom of action. The opposites of creation in art are imitations, academicism, intellectual and emotional slavery. Creativeness depends on a

certain attitude of mind. It is democracy in practice--an invitation to free thinking, exploration, and progress. Its opposite, imitation, spells conformity, reaction, and decadence. (Knowles, 1980, pp. 127-128)

Malcolm Knowles recognized the significance of developing original and useful assumptions to enhance adult learning. Many assumptions and theories of adult learning are synonymous with theories and principles that describe the processes and traits of creative behavior and creative people.

Creativity is rare, difficult to study, and hard to quantify. Historically, the study of creativity has faced at least six major roadblocks:

1. The origins of the study of creativity are in a tradition of mysticism and spirituality, which seems indifferent or even possibly counter to the scientific approach.
2. The impression conveyed by pragmatic, commercial approaches to creativity that its study lacks a basis in psychological theory or verification through psychological research.
3. Early work on creativity was theoretically and methodologically apart from the mainstream of theoretical and empirical psychology, resulting in creativity sometimes being seen as peripheral to the central concerns of the field of psychology as a whole.
4. Problems with the definition of and criteria for creativity that seemed to render the phenomenon either elusive or trivial; approaches that have tended to view creativity as an extraordinary result of ordinary structures or processes, so that it has not always seemed necessary to have any separate study of creativity.

5. Uni-disciplinary approaches to creativity that have tended to view apart of creativity as the whole phenomenon, often resulting in what is believed to be a narrow vision of creativity and a perception that creativity is not as encompassing as it truly is.
(Sternberg & Lubart, 1999, p. 4)

The early history of research in creativity began in the second half of the nineteenth century when British eugenicist Sir Francis Galton showed that genius appeared with unusual frequency in certain families and concluded that genius was inherited (Gillham, 2001). Later investigations of creativity were confined to Freud and his disciples, who tried to trace the transformations of repressed libidinal content into the work of such artists as Michelangelo and Leonardo da Vinci (Csiksentmihalyi, 2000, p. 338).

J. P. Guilford's Research

Creativity testing owes its existence to World War II when the Air Force commissioned J. P. Guilford, a psychologist at the University of Southern California, to study the subject. The Air Force wanted to select pilots who, in an emergency, would respond with appropriately original behavior, saving themselves and the plane. The usual intelligence tests were not designed to capture originality, and hence Guilford was funded to design what

later became known as the test for divergent thinking (Csiksentmihalyi, 1996, p. 93).

Guilford's American Psychological Association (APA) presidential address is generally viewed as the foundation of much contemporary research on creativity (Guilford, 1950). Guilford's election to the presidency of the APA and the topic of his inaugural lecture, creativity, stimulated a great boost for creativity research in the late 1950s. The Soviet launch of a space probe in 1957 caused great concern in American society at large, resulting in the perception that creativity needed to be enhanced in schools (Csiksentmihalyi, 2000, p. 338).

Guilford (1950) hypothesized that at least eight primary abilities underlay creativity: (a) sensitivity, (b) fluency, (c) novel ideas, (d) flexibility, (e) synthesizing, (f) analyzing abilities, (g) complexity, and (h) evaluation (p. 453). Later Guilford and many others agreed that these eight primary abilities could be simplified to three: fluency, flexibility, and novelty or originality. Guilford led the way for creative testing and developed several tests that exemplified his stages of development in the field of creativity: (a) the Structure of Intellect (SOI) test, (b) the Divergent Thoughts (DT) test, and the (c) Structure of Intellect Problem-solving (SIPS) test (Guilford, 1967).

Although Guilford is considered by many as the founder of creativity testing, it should be noted that the test that has achieved the most popularity is the Torrance Test of Creative Thinking (TTCT) (Torrance, 1974). This test is based on Guilford's theory and thus can be seen as a fairly strict extension of the framework proposed by Guilford.

Guilford has had an enormous influence on the psychology of creativity. In many ways, he is the father of modern creativity research. However, many now believe his conception of creativity was flawed and is somewhat a theory of the past (Sternberg & Grigorenko, 2001). Today, more sophisticated confirmatory and other techniques have replaced Guilford's tests (Embreton & McCollam, 2000). Despite its problems, Guilford's theorizing has made a number of important and lasting contributions. These contributions outshine the flaws. First, Guilford was among the first to define intelligence very broadly. Second, Guilford's behavioral dimension has been used as an outline for many theorists in various disciplines. Third, Guilford recognized the importance of precise empirical testing of theories. Fourth, the theory was specified with sufficient detail and precision that it could be tested, confirmed, and disconfirmed. Finally, Guilford renewed interest in

creativity at a time when the field was deteriorating (Sternberg & Grigorenko, 2001, p. 314).

The highest achievements in the arts are characterized by creativity. Thus, music and the musicians are often associated with the concept of creativity.

Music

Music as a Language

The language of music is universal. It has existed throughout world history. Two reasons define why music is universal: (a) no culture exists without it, and (b) all persons have knowledge of it to a considerable degree. Whether cultures are defined by geographic region, social class, or age group, each has its music (Serafine, 1988, p. 2). People are surrounded with music in stores, elevators, work, airports, factories, churches, and homes. From the simple tones of shower singing to the complex melodies of the Boston Symphony Orchestra, each composition describes its own unique language. Vast music libraries from rock to pop, opera to symphony, from Africa or Asia, and from sacred or secular are all effortlessly accessible to the listener by simply pressing a button.

Music is culturally diverse and used for many purposes. The language of music was used as a secret communication learning tool. Literacy was forbidden for African slaves by

slave owners, and spiritual worship was segregated. The church became a communication place where slave songs became the mechanism for communicating ideas. The drinking gourd song represents not a joyous occasion as assumed by slave owners but was a strategic plan to learn how to escape through the underground railroad (Monjo, 1970). Music was the only instrument a slave could secretly use to condemn slavery and say it only for slaves to hear. Likewise, rap music, an urban rhythmic beat with spoken words, uses a secret language only to be understood by those who are accustomed with the Rap music culture.

Native Americans have traditionally acknowledged the spiritual authority and power that the natural language of music carries through storytelling. Traditional Native stories teach honoring all life, especially ancestors, plants, and animals. Years upon years of a kinship with the land, life, water, and sky have produced a variety of narratives and songs about intimate connections to the earth. Each Native story is a part of a greater whole, a continuum of stories and songs that has neither a beginning nor an end. Stories and songs are possessed with such power that they have survived for generations despite attempts at repression and assimilation (Public Broadcast Service, 2003).

Myles Horton, political activist and founder of the Highlander Folk School, recognized that people did not have to be literate to use music as a universal communicative device to illustrate their local culture and history. He learned that group singing brought hard-working people out of the silence of their individuality. "The people can be made aware that many of the songs about their everyday lives, songs about their work, hopes, their joys and sorrows, are songs of merit" (Adams, 1975, p. 76). The power of music is much more than idle leisure time. Historical political movements have used music as a strategic tool to fuse a commonality of purpose and to communicate beyond rational appeals (Adams, 1975, p. 155).

This natural universal language of music is similar to learning any other language. For example, some people naturally speak English, others are naturally-trained in learning English, and some learn English through formal study. Speaking English, however, does not guarantee its proper usage. There are many people who speak English that are illiterate but are able to communicate to others very effectively. Elvis Presley, also known as the King of rock and roll (Beagley, 2003), learned the language of music naturally by self-direction and communicated to millions of fans without formal music training. There are many people

creating and perfecting this natural music language and using innovative learning theories through self-directed study. However, many naturally-trained musicians have little knowledge and no interest to learn what constitutes music properties.

Formal Structure of Music

The physical properties of music describe how sounds are produced or their acoustical characteristics. These characteristics include four principles: (a) vibrations that cause sound waves to be projected on the tympanic membrane or ear drum, (b) the amplitude or intensity of the vibrations that relates to the distance the vibrating body deviates from its point of rest and that influences one's perceptions of loudness, (c) the duration of sounds and whether they vary in intensity throughout their duration, (d) and the frequency of vibration and how it relates to the pitch of a tone so that greater vibration frequency results in higher the tone in the pitch scale (Tait & Haack, 1984, p. 26).

The formal properties of music describe how the sounds are combined to form music. Form is how sound is organized. Just as a builder uses a blueprint to build a house, a composer uses form to build a song. While a builder can build a large or small house, a composer can build a simple

or complicated piece of music. Like a builder's house that can have different shapes, the composer can give different shapes to music.

The continual evolution of music makes defining one agreement of formal properties unrealistic, but several experts agree with the principles of the Hawaii Music Curriculum Project. These principles include seven major basic concepts for all levels of music study: tone, rhythm, melody, harmony, texture, tonality, and form. These concepts are regarded as essential elements that must be nourished in any learning process when the main thrust is directed on the substantive elements of the discipline (Thomson, 1974, pp. 8-9).

The evidence for multiple music styles is the almost endless list of labels that describe them: jazz, baroque, impressionist, rock, big band, gospel, dixie land, and rap are but a few examples. The abundance of music styles has created the dilemma of defining what is and what is not music. Human perceptions is as much determined by the perceivers, their experience, and their expectations as it is by the stimulus (Siegel, 1981, p. 96). The listener's choice and evaluation of music is the final decision to determine what is considered good or bad taste.

Musicians

A musician is a performer, composer, or conductor of music (Merriam-Webster, 2000). The absence of expression, creativity, critical thinking, and innovation makes this definition of music inadequate. Beyond this narrow definition is an elaborate cluster of human behaviors that cannot be defined. There are many assumptions concerning music acquisition. Music experts have traditionally been unable to agree on what musicality is, what its elements are, and how it should be measured (Serafine, 1988, p. 10).

A central question related to music acquisition concerns how people actually learn music. One of the most influential theories of music has been the theory of music as a trait. The trait theory of music owes much to Francis Galton (1822-1911). Galton's made two contributions to the trait theory of music: lineage tracing in families showing how music was systematically inherited and testing devices for measuring music intelligence. Although Galton's theories were challenged in many areas, his influence was profound for laying the foundation for research to follow. Today researchers continue to debate whether musical prodigies genetically inherit their artistic ability or if they learn from the musical environment.

From anecdotal and published reports we know that many musician prodigies have had intensive exposure to music very early in life, often by musically talented parents. In such cases, it is

difficult, if not impossible, to disentangle the contribution of an enriched musical environment from that of inherited predispositions. (Dowling & Tighe, 1993, P. 161)

Whether music is inherited or learned from the musical environment, analyzing the musicians creative artistic abilities will continue to be worthy of study.

Music scholar John Blacking studied the nature of musicality and musical development in the Venda children of northern Transvaal, South Africa. The Venda children whom Blacking studied were competent musicians who sang and played at least one musical instrument. They did this without formal in-school musical training. Through observation, Blacking discovered that musical ability emerged through the process of the children's socialization with their mothers, other adults, and other children. His observations revealed the following:

1. Infants, who spent a great deal of time strapped to the backs of their mothers, heard songs and felt rhythms as their mothers sang, danced, and played singing games in many social contexts;
2. After feeding, infants were invariably treated to face-to-face interaction as their mothers sang to them and "danced" them up and down;
3. When infants started banging on some objects, adults did not automatically quiet them but instead often provided a complementary second rhythm that tended to convert the infants' spontaneous rhythms into polyrhythmic, intentional musical action;
4. When two children moved and sounded rhythms together, they frequently made two patterns

- rather than a unison (an exercise of individuality in community);
5. And as children grew, they participated increasingly in the community's dancing and music-making, encouraged by adults who were well aware of the part that such experiences would play in teaching children how to think, act, feel, and relate to others (Campbell, 2000, p. 10).

John Blacking's observations of music learning through environmental and social contact add additional questions to defining music acquisition.

Music Instruction

Teaching music is similar to teaching other subjects. Proficiencies and skills are identified to execute professional performance. The learner should possess some musical intelligence however; there are many people in the business of music who have little, if any, theoretical musical competence. Musical competence is defined by the student who seeks wanted knowledge from the teacher. For example, in American folk music the senior fiddler teaches musicians to play by tying one leg of the student to one leg of the senior fiddler. As the senior fiddler plays and stomps, so does the leg of the student. After several lessons of stomping, only then is the student ready to hold the instrument (Serafine, 1988, p. 36). This technique of instruction would seem senseless to many traditional music instructors; however, the musical pulse has been identified

by the senior fiddler as the most important proficiency and skill for teaching American folk music. The musical competence of the senior fiddler has been identified by the student as wanted knowledge and expertise.

For traditional and formal music study, the National Association for Music Education list nine characteristics of proficient music expertise:

1. Singing, alone and with others, a varied repertoire of music.
2. Performing on instruments, alone and with others, a varied repertoire of music.
3. Improvising melodies, variations, and accomplishments.
4. Composing and arranging music within specified guidelines.
5. Reading and notating music.
6. Listening to, analyzing, and describing music.
7. Evaluating music and music performance.
8. Understanding relationships between music, the other arts, and disciplines outside the arts.
9. Understanding music in relation to history and culture. (National Association for Music Education, 2002)

Historically, music educators have focused on a variety of musical skills, including ear training, musical literacy, theoretical analysis, composition, improvisation, listening, and performance (Jorgensen, 1997, p. 10). Some music schools have discovered how to design music curriculum by utilizing this foundation as a basis for new courses. For example, a course designed for transcribing and evaluating popular music can illustrate the similar characteristics and

components used by traditional musicians from Western music history. Even though some curriculums may seem non-traditional and specialized, the foundations of music remain the same: theory, harmony, listening, performance, history, and improvisation. One formal school that is recognized in the music profession as an exceptional music school is Berklee College of Music. This music school is continuing to expand its curriculums and grow to meet the needs of the students.

Berklee College of Music

Joseph Schillinger (1895-1943), a Russian born mathematician, music theorist, composer, and teacher, is a figure who is, unfortunately, a footnote in the records of music history. In the early decades of the twentieth century, his influence on high profile figures in American music was widely known. Schillinger developed a unique mathematical system of music composition and analysis and taught it to such musicians as Tommy Dorsey, George Gershwin, Benny Goodman, Oscar Levant, and Glenn Miller. Glenn Miller apparently wrote "Moonlight Serenade" as a lesson assignment for Schillinger. George Gershwin used Schillinger's principles in the composition and orchestration of his famous opera "Porgy and Bess" (Berklee, 2004).

Lawrence Berk studied with Schillinger while working as a composer and arranger for CBS and NBC radio in New York in the 1930's. Lawrence Berk, composer, arranger, and Massachusetts Institute of Technology graduate engineer, was 1 of only 12 students selected and authorized by Schillinger to teach his musical system. Berklee College of Music, a nonprofit institution, was found by Lawrence Berk in 1945 as the Schillinger House of Music. Berk changed the name to Berklee School of Music in 1954, and the school granted its first bachelor's degree in 1966. In 1973, Berklee obtained its accreditation, and the school's name changed to Berklee College of Music.

Berklee College of Music is the world's largest independent music college for the study of contemporary music. Approximately 3,400 students attend Berklee. The college also has the highest percentage of international undergraduates of any college in the United States with 40% of the student body representing more than 70 countries. The five countries that supply the largest percentage of foreign students to Berklee are Japan (10%), Korea (4.3%), Germany (1.9%), Switzerland (1.8%), and Brazil (1.3%). Women make up approximately 20% of the college's student body.

President Lee Eliot Berk is a graduate of Brown University. He received the degree of Juris Doctor (J.D.)

from Boston University School of Law, joined Berklee professionally in 1966, and was appointed Berklee's second president by the trustees of the college in 1979, succeeding his father Lawrence Berk. He has led Berklee during its tremendous growth during the last two decades. Lee Eliot Berk has focused on the college's expansion in the areas of music technology, music business, community affairs, as well as its internationalization.

President Lee Berk introduced music law course work to the Berklee curriculum. This was expanded to include music business and related course work and matured into the college's popular major in Music Business/Management. Under President Berk's leadership, Berklee College of Music has developed additional majors for the contemporary music professions including majors in Music Production and Engineering, Music Synthesis, Songwriting, and Music Therapy (Berklee, 2002).

Many Berklee alumni are prominent music industry professionals, including producer/arranger Quincy Jones, rock singer/songwriter Melissa Etheridge, Steely Dan leader Donald Fagen, producer and Atlantic Recording Studios Vice President Arif Mardin, jazz vibist and Berklee Executive Vice President Gary Burton, singer/songwriter Patty Larkin, guitarist John Scofield, Living Colour drummer Will Calhoun,

singer/songwriter Bruce Cockburn, film composer Alan Silvestri, guitarist and Tonight Show bandleader Kevin Eubanks, singer/songwriter Paula Cole, jazz saxophonists/composers Branford Marsalis and Walter Beasley.

Adult Learning

"An adult learner is one who chooses to be in a given learning situation. The term adult learner refers to people of all ages, including teenagers" (Draves, 1984, p. 2). How adults learn music and process music information involves many characteristics of the adult learning system. Adult learners use distinct combinations of skills and strategies to reach music perfection. Adult learning involves the elements of: (a) andragogy, (b) self-directed learning, (c) learning styles, (d) learning strategies, (e) learning how to learn, and (f) the reflective practice.

Andragogy

Andragogy is the art and science of helping adults learn (Knowles, 1970, p. 43). It is a learner-centered philosophy that focuses on adult learning principles, considers learner needs, and assumes resources other than the teacher (Knowles 1984, p. 14).

The theoretical view of andragogy is based upon six assumptions about how adults learn (Knowles, 1980). As individuals develop, (a) their self-concept moves from one

of dependence to self-direction, (b) their experiences become a rich resource which can be accessed during learning, (c) their readiness to learn is related to their need to learn it, and (d) their orientation shifts from subject-matter content to developing increased competence in skills and knowledge which they can immediately apply to achieve their full potential in life (pp. 43-44), (e) adults are motivated to learn by internal rather than external factors (p. 12), and (f) it is important for adults to know why they are being required to learn content information (Knowles, 1990, p. 57.

These six assumptions of how adults learn can be identified with the development of musicians and composers. In order to reach higher levels of music achievement, the artist must: (a) identify the need to become critically self-expressive, (b) perfect improvisational concepts by trial-and-error experiences, (c) disregard useless exercises and practices, (d) transform theory to practice, (e) utilize intrinsic motivation for higher learning, and (f) select additional learning strategies that are integrated with the musician's learning style.

Self-Directed Learning

The self-directed learning process takes place when:

Individuals take the initiative, with or without the help of others, in diagnosing

their learning need, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (Knowles, 1975, p. 18)

Additionally, self-directed learning "usually takes place in association with various kinds of helpers, such as teachers, tutors, mentors, resource people, and peers" (p. 18).

Self-directed learning is a process that consists of six major steps: (a) climate setting, (b) diagnosing learning needs, (c) formulating learning goals, (d) identifying human and material resources for learning, (e) choosing and implementing appropriate learning strategies, and (f) evaluating learning outcomes (p. 18). As a result, adult educators have become increasingly interested in self-directed learning during the last 20 years (Long, 1992). Studies have revealed that 70% of adult learning is self-directed (Tough, 1978). Many musicians begin as self-directed learners before committing to pursue additional knowledge through formal education.

Learning Styles

Learning styles refer to a pattern in the way in which each individual assembles, categorizes, and transforms information (Kolb, 1993). Learning depends on many factors, and many of them are personal. Learning styles describe a person's typical mode of thinking, processing, or

remembering. Learning music proceeds most effectively and efficiently when learning strategies are drawn from the individual's style of learning. Learning is accelerated and reinforced when students are aware of the strategies they use to learn new information. What one learns must fit with what one already knows (Colwell, 1991, p. 171).

There are various models to categorize different learning styles. Three general categories are cognitive styles, affective styles, and physiological styles (Keefe, 1991). Cognitive styles of learning include those characteristics of the brain which decipher meaning and interact with the world (Keefe, 1991). Affective styles include motivation, decision making, and emotional preferences. Physiological styles include perceptual modes and environmental factors that affect learning. This is the process by which learners filter information from their surroundings through the use of their senses and environment (Keefe, 1991).

David Kolb (1984) has written extensively on the subject of learning styles, and his model is frequently used. Kolb identified two separate learning activities: perception and processing. Each of these learning activities can be divided into opposites. For example, some people best perceive information using concrete experiences like

feeling, touching, seeing, and hearing while others best perceive information abstractly by using mental or visual conceptualization. Once information is perceived it must be processed. Some people process information best by active experimentation which involves doing something with the information while others perceive best by reflective observation involves thinking about it (Algonquin, 2003). Kolb's theory of experiential learning involves four principle stages: Concrete Experiences (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). The CE/AC and AE/RO dimensions are polar opposite learning styles, and Kolb theorizes four types of learners based on these: Divergers who learn intuitively through reflection, Assimilators who learn by analyzing and reflecting, Convergers who learn by thinking and then doing, and Accomodators who learn by doing what is intuitively felt as right (Kolb, 1984).

Learning Strategies

A person's learning style is "the individual's characteristic ways of processing information, feeling, and behaving in certain learning situations" (Smith, 1982, p. 24). Learners are born with stable traits that they rely on when involved in a learning situation (Fellenz & Conti, 1989). Learning style is one of the three components of the

learning how to learn process (Smith, 1982, p. 23). Learning styles are generally established and are steady throughout the learner's life (Fellenz & Conti, 1989, p. 8).

However, learning strategies are "the techniques or skills that an individual elects to use in order to accomplish a learning task" (Fellenz & Conti, 1989, p. 7). Learning strategies are also described as ways in which learners and their resources may be arranged during learning situations (Smith, 1982, p. 113). While learning styles are more influenced by the intrinsic ways of information processing, learning strategies deal with the methods learners use to gain information in different learning situations (Conti & Kolody, 1995). Rather than being intrinsic ways of learning, learning strategies involve more choice on the part of the learner. Learning strategies are behaviors that the learner may choose to use when attempting a learning task (Fellenz & Conti, 1989).

In the field of Adult Education, learning strategies have been conceptualized as consisting of the five areas of Metacognition, Metamotivation, Memory, Critical Thinking, and Resource Management (Conti & Kolody, 2004; Fellenz & Conti, 1993). Research using these five areas have led to the identification of three distinct groups of learners. The

groups are referred to as Navigators, Problem Solvers, and Engagers (Conti & Kolody, 1999).

Navigators are "focused learners who chart a course for learning and follow it" (Conti & Kolody, 1998, p. 9). They are high achievers who tend to concentrate on external learning processes. These learners rely on strategies such as planning, attention, identification and use of resources, and testing assumptions. Navigators work well under organized deadlines, clear-cut goals, and definite clearly-communicated expectations (p. 9).

Critical thinking is the learning strategy most frequently associated with Problem Solvers. Like the Navigators, these learners look externally at available resources that will best assist their learning procedures (Conti & Kolody, 2004, p. 186). Problem Solvers "rely on a reflective thinking process which utilizes higher order thinking skills" (Conti & Kolody, 1999, p. 11). They frequently test assumptions, generate alternatives, and use conditional acceptance strategies. Problem Solvers are handy at adjusting their learning processes and resources to fit their learning needs (Conti & Kolody, 1998, p. 12).

Internally motivated, Engagers must be certain that a learning activity will be meaningful to them before they become involved (Conti & Kolody, 1998, p. 14). They are

"passionate learners who love to learn, learn with feeling, and learn best when they are actively engaged in a meaningful manner" (P. 13). Engagers consider their efforts "as an extension of themselves and are motivated by feelings of satisfaction and pride" (p. 15). They tend to focus on the process of learning rather than the content of material being learned.

Learning How to Learn

As a result of a career-long exploration of the development of adults' learning-how-to-learn capacities, Robert M. Smith believed that people need to know about learning itself in order to become successful in learning. "Learning-how-to-learn involves possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters" (Smith, 1982, p. 19). If one possesses the necessary knowledge and skill, then one has learned-how-to-learn. One important element in facilitating learning is helping learners become aware of their own distinctive learning styles (Brookfield, 1988, p. 64).

Adult education is a process (Smith, 1976, p. 6). It is important to involve the learner in every phase of the process. It is as important to teach adults how to learn as it is to specify particular curricular domains for learning

(Brookfield, 1988, p. 64). Critical to this process is the development of each learners' awareness and capacity for effective self-monitoring and active reflection (Smith, 1991, p. 11).

Involving the learner in the learning process includes participation in planning, conducting, and evaluating learning activities (Smith, 1976, p. 6). These concepts are used by many self-directed and novice musicians. For example, planning establishes how adult learners identify their needs and set goals as they select resources and strategies. The self-directed musician identifies skill levels, selects the appropriate materials, and determines the effective strategy for achieving musical success. In conducting or negotiating selected procedures and resources, they learn to give and receive feedback. The self-directed musician critically reflects on performances and makes the necessary adjustments to obtain musical success. Evaluating is how adult learners measure how efficiently their goals are met. The self-directed musician accepts limitations and continues to strive for musical perfection.

The Reflective Practitioner

Reflective practitioners are individuals who find new knowledge, test it through application, reflect on the results, and use the outcome to direct themselves toward

further information they need (Schön, 1987). Knowing-in-action is "the know-how we reveal in our intelligent action, publicly observable, physical performance.... We reveal it by our spontaneous, skillful execution of the performance; and we are characteristically unable to make it verbally explicit" (p. 25). The musician makes unique choices to direct the output of the compositional piece. These choices are spontaneous movements within a musical structure that manipulates the instrument to the performers satisfaction.

Reflection-in-action is defined as "thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome" (Schön, 1987, p. 26). When the performer plays notes that are not within the musical context, the musician's awareness shifts to different modes of theoretical expressions. The experienced improvisational musician understands that there are no wrong notes, but how the musician approaches and departs from notes leaves the listener with the mood of the musical composition.

When good jazz musicians improvise together, they similarly display reflection-in-action smoothly integrated into ongoing performance. Listening to one another, listening to themselves, they "feel" where the music is going and adjust their playing accordingly.... Improvisation consists in varying, combining, and recombining a set of figures within a schema that gives coherence to the whole piece. As the musicians feel the directions in which the music is developing, they make new sense of it.

They reflect-in-action on the music they are collectively making—though not, of course, in the medium of words. (Schön, 1987, p. 30)

Reflection involves a review of the way one has consciously, coherently, and purposefully applied ideas in processing and implementing each phase of solving a problem (Mezirow, 1991, p. 101). Critical reflection enhances musical knowledge and gradually evolves the musician/composer's learning experiences into unique performing characteristics. These unique characteristics combined with the performer's learning strategies, predicts the techniques and skills the musician/composer will use.

Problem Statement

People are naturally attracted to music for different needs. Some people sing in the shower for fun while others sing in the shower with aspirations of becoming the next professional superstar. This natural process of learning music is everywhere and is an intricate part of peoples lives. It is known that different approaches exist for teaching music, and these creative approaches can be identified with some music schools. For example, Berklee College of Music is a music school that approaches teaching music from a definitive design of formal music study. Conversely, naturally-trained musicians creatively learn music from a self-directed approach to learning. Thus, while

musicians have always learned music in various ways, it is not known how individual differences are conceptualized as learning style and learning strategies preferences influence this learning. In addition, it is not known how the concept of creativity relates to learning music.

Purpose

The purpose of this study was to describe the learning styles and learning strategies of naturally-trained and formally-trained musicians and to explore creativity relationships when learning music. This was accomplished by identifying the learning styles and learning strategies of students at Berklee College of Music and naturally-trained musicians in Tulsa, Oklahoma. The Learning-Style Inventory (LSI) was used to measure learning styles, Assessing the Learning Strategies of Adults (ATLAS) was used (see Appendix C) to identify learning strategy preferences, and a 16-question survey (see Appendix A and B) measuring creativity constructs was created and used. In addition, the exploratory portion of this study was accomplished by interviewing both formally and naturally-trained musicians. The ability to tap into the experience of others in their own natural language while utilizing their value and belief frameworks is virtually impossible without face-to-face and verbal interaction with them (Guba & Lincoln, 1981, p. 155).

Research Questions

In some areas of research, a considerable amount of data has already been gathered and related to theory. Depending upon the state of knowledge, the research process might be one of testing well-developed theory, clarifying or refocusing tentative theories, or developing new theory (Merriam & Simpson, 1984, p. 7). Other studies have been conducted by Pinkins (2001), Massey (2001), and Shumaker (2001) that examined both learning styles and learning strategies. This study also explored the relationship between these two concepts and continues the learning styles and learning strategies' line of inquiry.

The following research questions were used to accomplish these research goals:

1. What are the learning style preferences of musicians at Berklee College of Music and Naturally-trained musicians in Tulsa, Oklahoma?
2. What are the learning strategy preferences of musicians at Berklee College of Music and Naturally-trained musicians in Tulsa, Oklahoma?
3. How do the learning strategy preferences of Naturally-trained and Berklee-trained musicians compare to the norms of ATLAS?
4. How do learning styles and learning strategies interact?
5. What are the creativity profiles for Berklee-trained and Naturally-trained musicians?
6. How do learning styles, learning strategies, and creativity concepts interact?
7. Do groups exist among musicians based upon their learning styles and learning strategy preferences, and creativity responses?

8. How do musicians describe their learning experiences?

Competing Paradigms

One's fundamental models or frames of references used to organize observations and reasoning creates a paradigm for study (Babbie, 2001, p. 42). This study's frame of reference utilized two competing paradigms to address the different goals of the research. The first paradigm took a positivist approach. The positivist seeks the facts or causes of social phenomena with little regard for the subjective states of individuals (Patton, 1980, p. 45). The descriptive quantitative data revealed clear-cut findings that were represented by numerical statistics. It revealed the way things were with the respondents in regards to established measures of learning styles and learning strategies and in regards to a measure of creativity. However, the second paradigm integrated a naturalistic approach where the researcher relied on field study as a fundamental method which viewed truth as inescapable (Guba & Lincoln, 1981, p. 55). This qualitative exploratory section exposed findings were the researcher was the instrument and careful interpretation of the results was presented in its original form.

The Researcher In Context

In a qualitative case study the researcher is the indispensable instrument for gathering and interpreting data (Merriam, 1988, p. 36). Throughout the development of the case study the investigator designs, collects, and analyzes data with no established step by step procedures or protocols to follow. The investigator's role in qualitative research has often been compared to that of a detective. "One must enjoy searching for pieces to the puzzle and tolerate uncertainty for an indefinite period of time" (p. 37). One of the cardinal principles of qualitative methods is "the importance of background and context to the processes of understanding and interpreting data" (Patton, 1980, p. 9).

Descriptive studies take place within a specific environment, and their purpose is to describe contextual elements within the setting. To do so, "the researcher must be sensitive to the context and all the variables within it including the physical setting, the people, the overt and covert agendas, and the nonverbal behavior. One also needs to be sensitive to the information being gathered" (Merriam, 1988, p. 38). Qualitative evaluators do not measure, but "they emphasize, describe, judge, compare, portray, evoke images, and create, for the reader or listener, the sense of having been there" Guba & Lincoln, 1981, p. 149).

Since the evaluator is the primary data collection instrument for qualitative aspects of a research project (Merriam, 1988, p. 19), an awareness of the relationship of the researcher to the context of the study is important. Interpretations held by people are born out of their experience with and interaction with their contexts. The tie is so close that one can easily argue that constructions create the context that the evaluators experience and are in turn given life by that erected context (Guba & Lincoln, 1989, p. 60). Since the researcher using qualitative methods attempts to make sense of the setting under study through direct personal contact and experience with the program (Patton, 1983, p. 43), it is important and necessary that there be a specification of the role of the researcher in conducting the evaluation.

This investigator's experience with formal and informal music study was a major factor in the selection process of the research design. Over 20 years of professional music experience in performance, song writing, and production established a benchmark for the researcher exploring how some adults describe music learning. After careful analysis of the quantitative and qualitative findings, the researcher discovered a self-reflective life profile within the study. For example, parallel to the musicians in this study, the

researcher began music in middle school; had family support; made a decision in the 9th grade to pursue music seriously; participated in school band, chorus, and church choir; and utilized FREEdom (flexibility, resources, exploring relationships, and experience) to enhance music learning.

Learning formal music in middle school, while simultaneously experientially learning from informal musicians, integrated the researcher into two different learning environments. One was for expressing talent, and the other was for finding creativity. By realizing the need for formal and informal study, the journey of collective music learning was established. Formal music study guided the researcher through music in public school, the Army band, and Berklee College of Music while informal music study led the way for experimental music activities.

While attending Berklee College of Music in Boston, Massachusetts the researcher had the opportunity to perform with informal musicians who were considered the best in the music industry such as: The New Edition and The New Kids On the Block. These musicians were financially successful without knowing, or expressing any interest of knowing, formal music study. However, the majority of the band members for these groups were some how affiliated with Berklee College of Music either as students or teachers. Yet

again, the two approaches of music learning, formal and informal, were different but blended together perfectly to complete the tapestry. Moving through the music learning process, the researcher also had the opportunity to compose music for jazz saxophonist Walter Beasley who has recorded more than five Compact Disc with major recording labels. This door opened other professional opportunities that led the researcher to receive two triple platinum, two platinum, one platinum, and two gold records for songwriting and composition for the Whoopie Goldberg movie, When My Sister's In Trouble.

Therefore, by viewing the study as a researcher and musician, sensitivity and extreme caution were utilized to avoid biases that could affect the study. The qualitative interviews were used in their natural form to permit the participants to express their authentic perceptions of what they believed to be significant for adults who learn music.

Statistical Analysis Used

Frequency distributions were used to construct profiles of the demographic data and of the musicians' description of their learning process, learning styles, learning strategy, and creativity preferences. Chi square analysis was used to compare the responses of the students to the norms for each group. Discriminate analysis was used to explore the

interaction between learning styles, learning strategies, and creativity concepts. Cluster analysis was used to identify inherent groups within the musicians, and discriminant analysis was used to describe the process that distinguished these groups. Finally, interviews were used to gather the musicians' perceptions of their learning process.

CHAPTER 2
REVIEW OF THE LITERATURE

Learning Styles

Most cognitive controls and, to a lesser extent, cognitive styles define processing characteristics that are based on task-relevant measures, that is, tests that measure the actual skill or tendency. An outgrowth of the interest in cognitive styles has been the evolution of learning styles, which are general tendencies to prefer to process information in different ways. However, considerable confusion appears in the literature concerning the terms cognitive style and learning style and many authors use the terms interchangeably. Garity (1985) notes that learning style has been used as a description for the cognitive process of thinking, perceiving, and remembering (McFadden, 1986). McFadden states that most definitions of learning style as well as cognitive style, illustrate variations in individual information processing and that no single definition for learning style or cognitive style has been identified. Descriptions of cognitive style include: a consistent pattern of behavior within a range of individual variability (Cornet, 1983); a student's consistent way of responding to and using stimuli in a learning environment (Claxton & Ralston, 1978); how individuals process

information and prefer to learn (Garity, 1985); the way individuals organize information and experiences (Laschinger & Boss, 1984); a person's characteristic style of acquiring and using information; and an expression of psychological differentiation within characteristic modes of information processing (Witkin & Goodenough, 1981). Cognitive styles are also viewed as the typical means of problem solving, thinking, perceiving, and remembering (Messick, 1976).

A number of educators began in the 1960s and 1970s to develop instruments to measure these learner preferences. Learning styles, in effect, are applied cognitive styles. Many learning style instruments are analyzed self-report surveys. That is, the instruments ask individual learners about their preferences for and perceptions of how they process information. They do not test the actual ability, skill, or processing tendency as do cognitive controls and some cognitive styles (Jonassen & Grawbrowi, 1993, p. 233).

Educators often wonder why some students find it difficult to learn whereas others find it easy. The term "learning style" surfaced when researchers "began to look for specific strategies for combining course presentation and materials to match the particular needs of each learner" (Paxton & Murrell, 1987, p. 71). Student learning differs because student learning traits differ and because the

thinking process differs depending on what the student is trying to learn (Jonassen & Grawbrowi, 1993, p. 3). First, student learning traits differ and individuals vary in their aptitudes for learning, their willingness to learn, and the styles or preferences for how they learn if they choose to. These differences impact the learning process for each student. That is, these learner traits determine to some degree if and how well any individual is able to learn. Second, the nature of the thinking and learning processes varies with the task. The outcomes of learning require that students think in different ways. Third, learner traits interact with learning outcomes and the thinking requirements entailed by them. Different learners will have varying aptitudes for different learning outcomes.

There are many assumptions of learning preferences that are continually being explored by empirical research. For example, (a) individuals differ in their general skills, aptitudes, and preferences for processing information, constructing meaning from it, and applying it to new situations; (b) individuals also differ in their abilities to perform different school-based or real-world learning tasks and outcomes; (c) different school-based or real-world learning tasks and outcomes require the use of different skills, aptitudes, and preferences (Jonassen & Grawbrowi,

1993, p. 4). These general abilities or preferences affect the student's ability to accomplish different learning outcomes; that is, one's learning aptitude interacts with the accomplishment of learning tasks and outcomes.

Learning style is "a description of the attitudes and behavior which determine an individual's preferred way of learning" (Honey & Mumford, 1992, p. 1). Learning styles are "personal qualities that influence a student's ability to acquire information, to interact with peers and the teacher, and otherwise to participate in the learning experience" (Guild & Garger, 1985, p. 41). A person's learning style is "the individual's characteristic ways of processing information, feeling, and behaving in certain learning situations" (Smith, 1982, p. 24).

Knowledge about one's learning styles is also a way to help learners learn how to learn (Smith, 1982). There are three identified steps which must be taken in order to develop activities using concepts of style. First, "an awareness and knowledge of the concepts, ideas, and issues" (p. 96). Each individual should have a clear, personal understanding of style. Second, once a person is aware of style differences, people must make a conscious commitment to respect and honor individual diversity. For many learners and educators alike, it may be easier to accept individual

diversity in theory than to apply it in practice. After awareness and personal commitment, the third and final step is for each person to develop a plan of action and ask fundamental questions about the implications of style (p. 96).

Learning style is the composite of characteristic cognitive, affective, and psychological factors that serve as an indicator of how an individual interacts with and responds to the learning environment (Keefe, 1979, p. 4). The study of learning style involves the investigation of individual differences: people perceive and gain knowledge differently, they form ideas and think differently, and they act differently (Messick, 1976, p. 2). Thus, learning styles are stable individual differences in cognition and personality that influence learning and performance.

Research on style as an individual trait has been of interest to psychologists for many years (Jung, 1921; Myers, 1962). Kolb's (1976) Experiential Learning Model and his associated instrument, the Learning Styles Inventory, were instrumental in developing educators' interest in the concept of learning style. An individual's learning orientation is possibly the most important determinant of that individual's educational attainment (Allinson & Hayes, 1988). For this reason, considerable research has been

undertaken in recent years to diagnose learning style preferences (Reynolds, 1997). Identifying the characteristics of individual students is seen as a potential way of improving course design and an individual's learning outcomes (Allinson & Hayes, 1988).

Research of learning styles reveal conflict of terminology and contradictory findings. This may be because learning style has been addressed by researchers in various disciplines who were asking different questions and focusing on different aspects of the learning process (Paxton & Murrell, 1987, p. 4). The term cognitive style continues to appear and is often used interchangeably with the term learning style.

Learning style research models can be divided into four areas: personality models, information processing models, social interaction models, and instructional preference models (Paxton & Murrell, 1987). This study focused on informational processing and instructional preference models: how learners perceive and process information when learning. There are various learning style models.

Experiential Learning

Writers in the field of experiential learning have tended to use the term in two contrasting senses. The first type of experiential learning is used to describe learning

undertaken by students who are given a chance to acquire and apply knowledge, skills and feelings in an immediate and relevant setting. Thus, a direct encounter with the event being studied rather than simply thinking about the encounter, or only considering the possibility of doing something about it (Borzak, 1981). The second type of experiential learning is "education that occurs as a direct participation in the events of life" (Houle, 1980, p. 221). Here learning is not sponsored by some formal educational institution but by people themselves. It is learning that is achieved through reflection upon everyday experience and is the way that most of us do our learning.

Experiential learning is often misunderstood as a set of tools and techniques to provide learners with experiences from which they can learn. Some use the term to describe learning that is a simply recording one's experience. Yet experiential learning is above all a philosophy of education based on what Dewey (1938) called a "theory of experience". He argued that while traditional education had little need for theory since practice was determined by tradition; the new experiential approach to education needed a sound theory of experience to guide its conduct (Kolb, 2003, p. 3).

Experiential Learning Theory (ELT) is a collection of works from distinguished scholars who identified experience

as an important role in their theories of human learning and development, notably John Dewey, Kurt Lewin, Jean Piaget, William James, Carl Jung, Paulo Freire, Carl Rogers and others, to develop a holistic model of experiential learning used as a model for adult development (Kolb 1984). The theory is built on six propositions that are shared by these scholars:

1. Learning is best conceived as a process, not in terms of outcomes.
2. All learning is relearning.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
4. Learning is a holistic process of adaptation to the world.
5. Learning results from synergetic transactions between the person and the environment.
6. Learning is the process of creating knowledge. (Kolb, 2003, p. 5)

Kolb's Research

The experiential learning literature is essentially about learning from primary experience. Namely, learning through sense experiences (Jarvis, 1995, p. 75). There have been various additions to the study of experiential learning however, it is the work of David A. Kolb (1976; 1981; 1984) that has provided the fundamental reference point. Following Kolb's work the experiential learning literature continues to grow especially with practitioners in higher education. Kolb's explored the processes associated with making sense of concrete experiences and the different styles of learning

that may be involved. He makes explicit use of the work of Piaget, Dewey and Lewin (Smith, 2001). Kolb created his famous experiential model out of four elements: concrete experience, observation and reflection, the formation of abstract concepts and testing in new situations. These elements were represented in his experiential learning circle after Kurt Lewin's action research spiral.

The use of concrete here-and-now experience to test ideas and use of feedback to change practices and theories are two significant features of Kolb's work (Kolb 1984, pp. 21-22). Kolb joins his concepts with Dewey to emphasize the developmental nature of the exercise, and with Piaget for an appreciation of cognitive development. He named his model so as to emphasize the link with Dewey, Lewin and Piaget, and to stress the role experience plays in learning. He wished to distinguish it from cognitive theories of the learning process (Smith, 2001).

Learning is the major determinant of human development and how individuals learn shapes the course of their personal development (Kolb 1984). Kolb's research has shown that learning styles are influenced by career choice, cultural influences, current job role, educational specialization, personality type, and tasks (Yamazaki 2002; 2003). Kolb's model defines three stages:

1. Acquisition, from birth to adolescence where basic abilities and cognitive structures develop.
2. Specialization, from formal schooling through the early work and personal experiences of adulthood where social, educational, and organizational socialization forces shape the development of a particular, specialized learning style.
3. Integration in mid-career and later life where non-dominant modes of learning are expressed in work and personal life. (Kolb, 1984)

Since the beginning of Kolb's Experiential Learning Theory (Kolb, 1971; Kolb, Rubin & McIntyre, 1971), there have been many studies using ELT to advance the theory and practice of experiential learning. The July 2003 update of the Experiential Learning Theory Bibliography (Kolb & Kolb, 2003) includes 1728 entries. ELT research is highly interdisciplinary, addressing learning and educational issues in many fields. An analysis of the 1004 entries in the 1999 bibliography (Kolb, Boyatzis, & Mainemelis, 2001) shows 207 studies in management, 430 in education, 104 in information science, 101 in psychology, 72 in medicine, 63 in nursing, 22 in accounting and 5 in law. About 55% of this research has appeared in refereed journal articles, 20% in doctoral dissertations, 10% in books and book chapters, and 15% in conference proceedings, research reports, and others.

Learning Style Instruments

There is no one universally accepted definition of the term learning style. However, the most frequently cited definition appears to be cognitive, affective, and physiological factors that affect how learners perceive, interact with, and respond to the learning environment (Keefe, 1979). Thus, learning style models and instruments have not yet been integrated into an overall learning style theory for categorizing learning styles (Bonham, 1988; Rayner & Riding, 1997). Instruments have been developed from at least six models:

1. Field dependence/field independence-Group Embedded Figures Test.
2. Jungian models-Myers-Briggs Type Indicator, Gregorc Style Delineator, Keirsey Temperament Sorter II, Kolb Learning Style Inventory.
3. Sensory models-visual auditory and kinesthetic.
4. Social interaction models-Grasha-Reichmann Student Learning Style Scales and Learning Preference Scales.
5. Howard Gardner's multiple intelligence model.
6. John Biggs' approaches to learning model-Study Process Questionnaire. (Suskie, 2002, p. 1)

Learning style instruments are used as tools to create awareness that learners differ and as a starting point for each individual's continued investigation of self as a learner. A thorough examination of various learning style instruments is beyond scope of this study. However, Smith (1982) contains a review of more than fifteen learning style instruments that are appropriate for use with adults. Also,

Price (1983) reviews eight learning style instruments, what they measure, approximate time needed to administer each instrument, and where they can be obtained.

The Group Embedded Figures Test

The Group Embedded Figures Test (GEFT) identifies two cognitive styles: field dependent and field independent. Under this model, field dependent learners pay more attention to what they see than what they feel. Their perceptions are influenced by their environment; they use their entire surroundings to process information and focus on the whole rather than on parts. They are externally motivated, prefer to work collaboratively rather than independently, are people-oriented, and are affected by instructor's interaction and communication style. Field independent learners, meanwhile, pay more attention to what they feel than what they see. Their perceptions are not influenced by their environment; they focus on the parts rather than the whole. They are intrinsically motivated, prefer to work independently or competitively, and take a more impersonal approach to learning (Price, 1983).

This is one of the rare learning styles instruments that has been reasonably well validated; the field dependence-field independence model has successfully predicted academic performance in a number of studies (Hayes

& Allinson, 1997; Thompson et al, 1979; Wilson, 1998). Some scholars feel, however, that the GEFT measures ability rather than learning style, making it an inappropriate choice as a tool to help students understand themselves.

The Myers Briggs Type Indicator

During the early 1900's, Carl Jung established a field identifying distinct personality pattern. Many theorists have since broken these patterns into categories attempting to make them easier to understand. The most widely used is the Myers Briggs Type Indicator (MBTI). There are different terms to name the patterns or personality styles, but many rely on the same terms to describe characteristics in each pattern, such as introvert and extrovert. The Myers-Briggs Type Indicator is a widely used personality instrument that can be an aid in understanding the individual differences because personality does play an important part in determining one's learning style (Clark, 2000).

The Canfield Learning Style Inventory

The Canfield Learning Style Inventory (CLSI) has a strong research base, uses clear language, reports in percentiles, and helps students and their instructors understand learning preferences. In Canfield's instructional preference instrument, learning style is derived from academic, structural, and achievement conditions; mode of

preferred learning; and expectations of performance level (Boylan, 1980). According to Claxton and Murrell (1987), two key theoretical areas that informed Canfield's work were Maslow's hierarchy of needs and McClelland's research on achievement motivation. In this investigation, then, learning style refers to the affective components of educational experience that motivate a student to choose, to attend to, and to perform well in a course or other educational endeavors. The affective component of education tends to be directly related to the holding power of programs, and, in general, to the institution as a whole (Claxton & Murrell, 1987).

The Gregorc Style Delineator

Anthony F. Gregorc has conducted extensive research with children, adolescents, and adults in various learning environments. His Gregorc Style Delineator shows that most individuals learn easier in certain environments and under certain conditions than others (Gregorc, 1979). Under different conditions, these students felt varying degrees of comfort ranging from pleasure to pain. Gregorc addresses two sets of qualities which form distinctive learning patterns and styles: Concrete/Abstract, and Sequential/Random. He separates these into four learning styles: Concrete Sequential (CS) learners prefer direct, hands-on experience.

They exhibit extraordinary development of their five senses; Abstract Random (AR) learners have a capacity to sense moods, and they use intuition to their advantage. They prefer to learn in an unstructured environment such as group discussions and activities; Abstract Sequential (AS) learners have excellent abilities with written, verbal, and image symbols. They like to read, listen, and use their visual skills; and Concrete Random (CR) learners like to experiment using trial-and-error approaches. They tend to jump to conclusions and prefer to work independently or in small groups. Although every individual Gregorc tested demonstrated use of all four styles, 95% expressed a preference in one or two areas (Gregorc, 1979).

The VARK Questionnaire

Under this model, visual learners prefer to learn through visual stimuli such as graphs and charts, auditory or aural learners prefer to learn by listening, and tactile, haptic, or kinesthetic learners prefer to learn through hands-on experiences involving touch or bodily movement. Some models identify additional sensory preferences. This instrument identifies four learning style dimensions: Visual (prefers to learn information through non-verbal depictions such as charts, graphs, symbols, hierarchies, etc.), Aural (prefers to learn information that is heard), Read/Write

(prefers to learn information displayed as words), and Kinesthetic (prefers to learn through experience and practice [simulated or real]) (Suskie, 2002).

The Grasha-Riechmann Student Learning Style Scales

The Grasha-Riechmann Student Learning Style Scales (GRSLSS) promotes understanding of learning styles in a broad context, spanning six categories. Students possess all of six learning styles to a greater or lesser extent. The six learning styles are categorized as independent, dependent, competitive, collaborative, avoidant, and participant. Some scholars suggest that this type of learning style interpretation prevents learning style stereotyping, and provides a rationale for pursuing personal growth and development in the underused learning style areas (Diaz & Cartnal, 1999). Each group have specific characteristics during the learning process. For example, Independent learners prefer independent study, self-paced instruction, and would prefer to work alone on course projects than with other students; Dependent learners look to the teacher and to peers as a source of structure and guidance and prefer an authority figure to tell them what to do; Competitive students learn in order to perform better than their peers do and to receive recognition for their academic accomplishments; Collaborative learners acquire

information by sharing and by cooperating with teacher and peers. They prefer lectures with small group discussions and group projects; Avoidant learners are not enthused about attending class or acquiring class content. They are typically uninterested and are sometimes overwhelmed by class activities; and Participant learners are interested in class activities and discussion, and are eager to do as much class work as possible. They are keenly aware of, and have a desire to meet, teacher expectations.

The Multiple Intelligence Inventory

Howard Gardner identified eight intelligences: logical/mathematical, visual/spatial, bodily/kinesthetic, musical, linguistic, interpersonal, intrapersonal, and naturalist (Gardner, 1983). According to Gardner, the learning teaching exchange should focus on the particular intelligences of each person. For example, if an individual has strong spatial or musical intelligences, they should be encouraged to develop these abilities. Gardner points out that the different intelligences represent not only different content domains but also learning modalities. A further implication of the theory is that assessment of abilities should measure all forms of intelligence, not just linguistic and logical-mathematical (Gardner, 1996).

The theory of multiple intelligences has focused mostly on child development although it applies to all ages. While there is no direct empirical support for the theory, Gardner presents evidence from many domains including biology, anthropology, and the creative arts and Gardner discusses application of the theory to school programs (Gardner, 1983). However, Gardner does not consider this model a learning style model; he views intelligence as a capacity geared to a specific content and style as a general approach that can be applied equally to every content (Gardner, 1996). Multiple intelligence theory focuses on the content and products of learning, while learning styles theory focuses on the process of learning (Silver, Strong, & Perini, 1997, pp. 22-27) .

The Study Process Questionnaire

John Bigg's model, the Study Process Questionnaire (SPQ), looks at learning style in a completely different way from other learning style inventories, making this a potentially useful addition to a selection of such instruments (Suskie, 2002). Students who take a surface approach to learning aim to meet minimal standards and learn unintegrated details. Students who take a deep approach to learning have an intrinsic interest in learning and learn meaning and relationships. Students who take an achieving

approach to learning are interested in competition and doing well and study whatever is necessary to achieve high grades.

The SPQ identifies four learning approaches to learning: (a) Surface-aims to meet minimal standards and learn unintegrated details, (b) Deep-has an intrinsic interest in learning and learns meaning and relationships, (c) Achieving-interested in competition and doing well and studies whatever is necessary to achieve high grades, and (d) Deep-achieving-a composite of the previous two. This is one of the few learning style inventories to have evidence of validity (Brown, 1992; Hall, 1992), although it has not been normed or validated with students outside Australia.

Learning Strategies

The use of learning strategies is a way to learn how to learn. Because of the uniqueness of individuals, differences in how one conducts learning activities is expected. These differences in how individuals approach learning have been referred to as learning styles and learning strategies. Learning strategies are "the techniques or skills that an individual elects to use in order to accomplish a learning task" (Fellenz & Conti, 1989, p. 7). Furthermore, learning strategies "are more a matter of preference; they are developed throughout life and vary by task" (Fellenz & Conti, 1993, p. 4). Learning strategies are different from

learning styles in that styles are a more permanent characteristic of the individual that does not change easily (Keefe, 1982).

The use of learning strategies may considerably effect the learner's success. "The skills or techniques selected to accomplish the task often have a great influence on the success of that learning activity. Adeptness and insight in the use of learning strategies is a significant part of one's ability to learn how to learn" (Fellenz & Conti, 1993, p. 3).

Learning strategy research is probably a natural spin-off of the mental process examined by cognitive psychologies in the sixties and seventies. Authors like Houle (1980), Tough (1971), Apps (1979), and Smith (1970) all wrote about how individuals take charge and manage their own learning process.

Improvement in both classroom achievement and the learning outside of formal educational institutions has been ascribed to learning strategies (Fellenz & Conti, 1993; McKeachie, 1986). "There is a need to teach students how to use learning strategies" (McKeachie, 1986, p. 30). Learning strategies which contribute to successful task completion are retained by individuals whereas those which have been

ineffective or perhaps less productive are abandoned (McKenna, 1991).

In the field of Adult Education, learning strategies have been conceptualized into five areas of learning. These five areas are identified in the Self-Knowledge Inventory of Lifelong Learning Strategies (SKILLS), a valid and reliable instrument used to measure learning strategies of adult learners (Conti & Kolody, 1999, pp. 16-20). SKILLS uses real-life learning scenarios to determine how likely a learner is to use specific learning skills or techniques in circumstances one might encounter in life such as assembling a bicycle, writing a letter to the editor, or caring for a relative (Fellenz & Conti, 1993). "One of the major characteristics of adult learning is that it is often undertaken for immediate application in real-life situations. Such learning usually involves problem solving, reflection on experience, or planning for one of the numerous tasks or challenges of adult life" (Fellenz & conti, 1993, p. 4). This approach conceptualizes learning strategies as consisting of the five areas of Metacognition, Metamotivation, Memory, Critical Thinking, and Resource Management (Fellenz & Conti, 1993).

Metacognition

Metacognition is a concept from cognitive psychology introduced by Ann Brown and John Flavell in the 1970s (Brown, 1985). Metacognition has to do with the ability of learners to make reflections, maintain control, and gain understanding of their learning (Gleber, Kim, & Kincannon, 1999). Furthermore, it is the knowledge and control over one's thinking and learning (Brown, 1985). Smith (1982) explains that it is important for adult learners to have some control over their learning processes and to become "aware of oneself as a learner" (p. 57). Metacognition strategies include Planning, Monitoring, and Adjusting (Counter & Fellenz, 1993).

Planning involves an individual deciding the best method for completing a learning task. Yussen (1985) suggests that planning involves the steps taken by the individual to organize and identify the essential steps for the learning process. Learners must have an understanding of their own learning requirements, what is required by the learning task, and a general idea of how to plan (Counter & Fellenz, 1993). Examples of planning for learning activities including estimating time requirements, organizing materials, and scheduling procedures necessary to complete an activity.

Monitoring requires maintaining a consciousness of the strategies, tasks, processes, and goals of the learning task within the context of individual abilities (Counter & Fellenz, 1993). It relates to the ability to assess one's progress in the learning task.

Adjusting permits the learner to make necessary changes in the learning process based upon the desired results and the learner's evaluation of the process. An adjustment can also be a modification made to one's approach to a learning task. Adjusting necessitates the learner to remain flexible during the learning process in order to modify the process to produce the desired outcomes.

Metamotivation

Metamotivation is concerned with "one's knowing and understanding how or why one is motivated to participate or remain in a learning activity" (Conti & Kolody, 1999, p. 4). Metamotivation is the awareness of and control over factors that stimulate and direct one's learning (Fellenz & Conti, 1993, p. 12). Metamotivation includes the strategies of Attention, Reward and Enjoyment, and Confidence.

Attention is defined as focusing on the material to be learned (Kolody, 1997). Attention includes identifying distractions and implementing a plan to avoid potential distractions.

Reward and Enjoyment is the anticipation or recognition of the value to oneself of learning a specific material, having fun, or experiencing satisfaction with the learning activity. For example, a learner is using the Reward and Enjoyment strategy if the learner recognizes the outcome of the learning activity to be personally useful or relevant (Fellenz & Conti, 1989).

Confidence is believing that the learning task can be completed successfully and that the task is personally worth doing. Confidence is directly related to one's ability to learn. The belief that a learner can complete a task is an important factor in the motivation to learn (Fellenz & Conti, 1993, p. 16).

Memory

For learning purposes, memory is defined as the ability to repeatedly store, recall, and process information; it is an essentially important skill when dealing with learning strategies (Korinek, 1997, p. 48). Memory activities include acquisition, storage, and retrieval processes. Memory strategies include Organization, Use of External Aids, and Memory Application (Paul & Fellenz, 1993).

Organization is the restructuring or processing of information so that the material will be better stored, retained, and retrieved. For example, chunking is an

Organization strategy used to put information into sets to reduce the number of categories to be remembered (p. 23).

External Aids incorporates the use of remembrances, mental images, or other memories to facilitate planning or problem solving. The use of daily planners, date timers, and calendars are examples of external aids.

Memory Application involves the use of remembrances, mental images or other memories to plan, implement, and evaluate learning activities. (Fellenz & Conti, 1993, p. 30). In adult real-life learning, memory application is used for "self-improvement, problem solving, and critical thinking; such applications range from acquiring a new physical skill to developing the knowledge and political skills necessary for community action" (Paul & Fellenz, 1993, p. 25).

Critical Thinking

The area of Critical Thinking was derived from Brookfield's (1987) critical thinking components. This concept is "applied to real-life situations and is composed of (a) identifying and challenging assumptions; (b) challenging the importance of concepts; (c) imagining and exploring alternatives; and (d) reflective skepticism" (p. 7). Critical Thinking strategies are Testing Assumptions, Generating Alternatives, and Conditional Acceptance.

The strategy of Testing Assumptions involves identifying, examining, and challenging assumptions in the learning process (Fellenz & Conti, 1993). "The process of challenging assumptions presumes the ability to identify these assumptions and the willingness to examine them" (Fellenz & Conti, 1993, p. 31).

Generating Alternatives entails considering and searching for alternative solutions or possibilities and includes strategies such as brainstorming and rank ordering the alternatives (Fellenz & Conti, 1993, p. 33).

Conditional Acceptance involves "advocating reflective skepticism to avoid absolutes or over simplifications." Examples of Conditional Acceptance strategies are questioning simplistic answers and predicting consequences (Conti & Kolody, 1999, p. 8).

Resource Management

Resource Management is "the identification of appropriate resources; critical use of such resources, and the use of human resources in learning" (Fellenz & Conti, 1993, p. 3). Resources include but are not limited to sources of information such as books, magazines, libraries, computers, electronic media, or individuals. Resource Management strategies are Identification of Resources,

Critical Use of Resources, and Use of Human Resources (Fellenz & Conti, 1993).

Identification of Resources consists of identifying possible sources of needed information. The learner must make a judgment of the value of obtaining the resource versus the time, energy, and expenses incurred in securing it (Conti & Kolody, 1999, p. 9).

Critical Use of Resources involves ascertaining "the most appropriate resource rather than simply those that are readily available" (Conti & Kolody, 1999, p. 9). Resource strategies use would include "contacting an expert or an outsider, checking the information with a second source, and observing or asking questions to check for bias" (p. 9).

Use of Human Resources consists of including others in learning situations (Conti & Kolody, 1999, p. 9). Conti & Kolody's Assessing The Learning Strategies of Adults (ATLAS) individual characteristics of the basic learning strategies will be defined and explored in the finding's sections of this study.

Learning Strategies Research

SKILLS has been the instrument used as the foundation for several learning strategy studies of adult learners. Learning strategy preference studies have involved adult learners in many diverse settings. These major learning

strategy studies by faculty and graduate students in the Adult Education program at Montana State University used a similar research design to explore the use of adult learning strategies within diverse settings. The volume of studies and subjects provides depth and insights not previously available regarding the learning strategies of adults.

Categories from diverse adult education settings were used in these studies. "These studies included college students (Bighorn, 1997; Conti & Kolody, 1995; Gallagher, 1998; Hill, 1992; Kolody, 1997; Strakal, 1995; Ungricht, 1997), nursing student (Lockwood, 1997), business and non-profit leaders (Conti, Kolody, & Schneider, 1997; Courtnage, 1998; Gehring, 1997; Moretti, 1994), military personnel (Korinek, 1997; Yabui, 1992), public school administrators (McKenna, 1991), senior citizens (Quarles, 1998), and learning disabled students (Hays, 1995)" (James, 2000, pp. 66-67). Various cluster analyses, discriminant analysis, and analysis of variance were used in many of these studies to determine groups of learners based on the 15 learning strategies identified in the SKILLS instrument. SKILLS provided the data set that was used to create Assessing The Learning Strategies of Adults (ATLAS) for identifying groups of learners based on learning strategies (Conti & Kolody, 1999). ATLAS places the learner in one of

three learning strategy preference groups: Navigators, Problem Solvers, and Engagers.

Theories and assumptions of adult education are criticized for not yet establishing "systematic lines of inquiry with one study building on another" (Merriam, 1987, p. 188). However, learning strategy research "is one line of adult learning inquiry in which one study has continued to lead to other studies" (James, 2000, p. 55). The ATLAS instrument has been used in various types of research. James (2000) used ATLAS to study students in the Adult Basic Education program (ABE). The study found that 52.9% of the participants identified themselves in the ATLAS category of Engagers; 29.8% were Navigators; and 17.3% were Problem Solvers. It was discovered that there was a apparent difference in the findings observed in this study when compared with the database used to develop ATLAS in which participants were almost equally divided in the three learning strategy preference categories.

When asked how they describe their approach to learning, Navigators indicated that they help themselves by managing their time, setting goals, and staying on task. They prefer to gather enough information to complete the project. Problem Solvers indicated that they enjoyed hands-on projects and do not like to be interrupted during

projects. Engagers indicated that they need to have a goal, cannot have distractions, and need to have resources readily available. Overall, James (2000) study found that a disproportionately large number of Engagers are enrolled in the ABE programs.

Ghost Bear (2001) administered the ATLAS instrument to describe the learning strategies of participants in the eBay auction process on the Internet. This study described the learning strategies that adults use in learning to engage in the eBay auction process. The study used a descriptive design along with the information and data gathering advantages of the Internet to collect data about how adults learning using the Internet. The study involved a representative sample of 380 eBay users which was identified by electronically downloading the e-mail addresses of participants in completed auctions. Ghost Bear (2001) found that a disproportionately large number of Problem Solvers use ebay.

Major corporations are using the Internet to remove barriers for those who want to buy, sell, and trade internationally. Girdner (2003) described the learning preferences of SeniorNet members while learning computer skills. Girdner also discloses strategies that seniors use while learning computers and how they manage. The study

found that a disproportionately large number of Problem Solvers are SeniorNet members. Thus, many myths pertaining to seniors and computers must now be reassessed.

Learning strategies are also described as ways in which learners and their resources may be arranged during learning situations (Smith, 1982, p. 113). Willyard (2000) used the ATLAS instrument to described the learning strategies of both first-generation college students and non-first-generation college students at Tulsa Community College (TCC) with particular emphasis on students that are of first-generation status. As in the ABE program (James, 2000), the study found that a disproportionately large number of Engagers are enrolled in the community college program.

Other studies have found a fairly equal distribution of learning strategies similar to the norm for ATLAS. For example, Turman (2002) used ATLAS to describe the learning strategies that students in Southern Nazarene University's graduate business program use in attending the program. He found that the distribution of learning strategies in the program at a university is similar to that in the general population.

Likewise, a distribution of learning strategies similar to the general population was found by Hinds (2002). This study described the learning strategies of African Americans

in the community of Enid, Oklahoma to determine if they differed from the expected norms for the general population. These studies illustrate diverse research utilizing ATLAS as an instrumental line of inquiry.

Thus, although "ones learning strategy preference has not been found to be associated in any way with demographic variables such as gender or race...and the distribution and characteristics of the group are the same for international students as they are for students from North America" (Conti & Kolody, 2004, p. 185), learning strategy preferences have been found to be associated with the type of organization. Organizations such as literacy programs and community colleges that put a strong emphasis in their public image on relationships attract a disproportionately large number of Engagers. Learning situations that support generating alternatives such as the use of the Internet or community policing (Birzer, 2000) attract a disproportionately large number of Problem Solvers. No studies have yet found a disproportionately large number of Navigators.

Creativity

Creativity is amongst the most complex of human behaviors. It seems to be influenced by a wide collection of developmental, social, and educational experiences, and it reveals itself in different ways in a variety of domains

(Runco & Sakamoto, 1999, p. 62). Creativity has been studied from many incompatible theoretical perspectives, each with its own assumptions, methodologies, biases, and even meta-theoretical views (MacKinnon, 1970; Mooney, 1963). Creative style constructs in the literature can be roughly categorized into three groups: (a) cognitive-based, (b) personality-based, and (c) activity-based (Sternberg & Grigorenko, 1997). The components and theoretical approaches to creative processes and the works of Mihaly Csikszentmihalyi are explored to emphasize the relationship between creativity and adult learning preferences.

Models of Creativity

Graham Wallas (1926) formalized a four-stage model of the creative process: (a) preparation, (b) incubation, (c) illumination, and (d) verification. The four-stages of the creative process are defined as:

1. Preparation involves a preliminary analysis of a problem, defining and setting up the problem.
2. During incubation, there is no conscious mental work on the problem.
3. Illumination occurs when the promising idea breaks through to conscious awareness.
4. Verification involves evaluating, refining, and developing one's idea. (Wallas, 1926, p. 12)

Although Wallas' four stage creative process was developed in 1926, it was not distinguished until Guilford presented

the theory in his 1950 American Psychological Association presidential inaugural address.

All researchers do not agree with Wallas' concept of steps in the creative process. The inclusion of incubation followed by sudden illumination in Wallas' model may explain why many researchers view creative thinking as a subconscious mental process that cannot be directed (Torrance, 1988). Some experts dismiss the notion that creativity can be described as a sequence of steps in any model. For example, Vinacke (1953) is adamant that creative thinking in the arts does not follow a model. In a similar vein, Gestalt philosophers like Wertheimer (1945) assert that the process of creative thinking is an integrated line of thought that does not lend itself to the segmentation implied by the steps of a model. While opposing views are strongly held, they are in the minority and many researchers use the four-stage model, or a variant of it, as the basis for understanding the creative process (Busse & Mansfield, 1980).

In terms of extending or enhancing Wallas' basic four-stage model, several researchers have suggested that it is important to distinguish a problem-finding or problem-formulation phase from the preparatory phase in which relevant information is gathered and preliminary ideas are

advanced (Amabile, 1996; Getzels & Csikszentmihalyi, 1976). Some experts have re-emphasized the importance of problem finding in addition to problem solving as an essential element of true creativity. Gestalt psychologists in particular have emphasized the importance of posing the correct question (Wertheimer, 1959). "Problem finding involves recognizing that a problem exists, finding gaps, inconsistencies, or flaws with the current state of the art" (Lubart, 2001, p. 297). Creative people see problems where others do not and this is an ability possibly related to curiosity (Guilford, 1950).

A large amount of studies have explored the nature of the subprocesses involved in creativity. The most obvious characteristic of original thinkers is divergent thinking (Guilford, 1967) and has been popularized since as lateral thinking (De Bono, 1992) or thinking outside the box. Divergent thinking tests are among the most popular techniques for measuring creativity in educational setting (Hunsaker & Callahan, 1995). Responses are usually scored for originality and fluency.

Amabile's (1996) componential creativity model proposes three basic intra-individual components that are necessary for creativity. In this model, creativity is defined as the production of novel, appropriate ideas or works. The three

components are (a) domain-relevant skills-competencies and talents applicable to the domain or domains in which the individual is working; (b) creativity-relevant processes-the personality characteristics, cognitive styles, and work habits that promote creativity in any domain; and (c) intrinsic task motivation-an internally driven involvement in the task at hand, which can be influenced significantly by the social environment (Amabile, 1996). The first two components, domain-relevant skills and creativity-relevant skills, are viewed as the necessary raw materials for determining what an individual can do in a given domain. However, the third component, task motivation, determines what the individual will do and how it will be done. People will be most creative when they are motivated primarily by the interest, enjoyment, satisfaction, and challenge of the work itself (intrinsic motivators) rather than by the external pressures or inducements (extrinsic motivators) in the social environment (Amabile, 1983).

Creativity Traits

Many highly creative individuals defy the crowd and produce products that are good but that are not exactly, and often not even approximately, what other people expect or desire (Sternberg & Lubart, 1991, p. 361). Creativity is meaningful only in the context of a system that judges it,

and what is creative in one context may not be in another (Csikszentmihalyi, 1996, p. 47). These crowd-defying ideas often cause creative people to feel underappreciated and attacked for their ideas and are incompatible with conventional ways of thinking. "Many contemporaries are not thrilled to hear that not only their work but also the assumptions on which their work is based are being questioned" (Kuhn, 1970, p. 361). Those who appreciate creative work are more likely to appreciate the forward-incremental type of creativity that builds on existing ideas than they are to appreciate the redirecting or re-initiating kinds of creativity that defy existing ideas (Sternberg, 2001, p. 361).

Creative people not only generate a lot of ideas but also analyze those ideas and discriminate between their better and their worse ideas. Beyond intelligence and other abilities, creativity appears to be in large part a decision (Sternberg, 1999 p. 362). Although creative people differ in an astonishing number of ways, the one key attribute they all possess is the decision to be creative. People who create decide that they will forge their own path and follow it, for better or for worse. The path is a difficult one because people who defy convention often are not rewarded. For creativity to occur, it must be preceded by a personal

decision to think and act creatively with all the risks attendant on doing so (Sternberg, 2002, p. 376).

There are many constructs associated with creativity. Some of these are fluency, flexibility, originality, problem finding, problem formulating, problem solving, curiosity, talent, motivation, love and enjoyment, challenge, clear goals, immediate feedback, intense concentration, distorted reference of time, control, and the decision to pursue the creative act (Amabile, 1996; Csikszentmihalyi, 1990; De Bono, 1992; Guilford, 1950; Lubart, 2001; Runco, 1991; Sternberg, 2001; Wallas, 1926). Many researchers also support the five steps during the creative process: immersion, incubation, insight, evaluation, and elaboration (Csikszentmihalyi, 1990;

There is endless empirical literature on the topic of creativity from many theoretical assumptions. However, many researchers expand Wallas' (1926) model or use the model to move towards new directions of refining the processes of creativity. One new direction is psychologist and author Mihaly Csikszentmihaly's concepts of creativity and his qualitative research exploring the creative process. His research findings concluded that people experience, what he defines as, "flow" when engaged in the creative process.

Csikszentmihaly's Research

Mihaly Csikszentmihalyi (pronounced "ME-high Chick-sent-me-high-ee"), former professor and chairman of the Department of Psychology, University of Chicago, is now the Professor at the Drucker School of Management, Claremont Graduate University, and the director of the Quality of Life Research Center. The Quality of Life Research Center is a nonprofit research institute that studies "positive psychology"; individual's strengths such as optimism, creativity, intrinsic motivation, and responsibility (Abuhamdeh, 2001).

Csikszentmihalyi's work in the past 30 years has consisted of developing a systematic phenomenology that makes use of the tools of the social sciences, primarily psychology and sociology, in order to answer the questions: How can each person create an excellent life, and how do creative people live and work (Csikszentmihalyi, 1997, p. 4). Csikszentmihalyi is convinced that creativity cannot be understood by looking only at the people who appear to make it happen (Csikszentmihalyi, 1996, p. 6). Csikszentmihalyi's five step creative process is an expansion of Wallas' (1950) model: (a) immersion, (b) incubation, (c) insight, (d) evaluation, and (e) elaboration (Csikszentmihalyi, 1996, p. 79). The creative process starts with a sense that there is a puzzle somewhere or a task to be accomplished. Perhaps

something is not right somewhere there is a conflict, a tension, a need to be satisfied. There are also situations when the question has not been asked because no one knows that there is a problem (p. 95).

Csikszentmihalyi's earlier studies involved experts, artists, athletes, musicians, chess masters, and surgeons, people who seemed to spend their time in activities they preferred. From their accounts of their experiences, a theory of optimal experience was based on the concept of flow, "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (Csikszentmihalyi, 1996, p. 4). "The metaphor of flow is one that many people have used to describe the sense of effortless action they feel in moments that stand out as the best in their lives" (p. 29).

Csikszentmihalyi's research team at the University of Chicago developed a new method of measuring people's experiences (Csikszentmihalyi, 1990, p. 4). The Experience Sampling Method involves having people wear an electronic paging device for a week and to write down how they feel and what they are thinking whenever the pager signals. The pager was activated by a radio transmitter about eight times a day

at random intervals. At the end of the week, each person provided a written film clip of their life that was made up of daily events, while primarily concentrating on intrinsic values.

Csikszentmihalyi has documented over 100,000 experiences collected from people in different parts of the world (Csikszentmihalyi, 1990, p. 4). Csikszentmihalyi also video taped interviews with ninety-one exceptional individuals between 1990 and 1995. There were three main conditions for selecting respondents. The person (a) had to have made a difference to a major domain or culture, (b) had to be still actively involved in that domain, (c) and had to be at least 60 years old (Csikszentmihalyi, 1996, p. 12).

Csikszentmihalyi (1997) defines emotions as the internal state of consciousness.

Negative emotions like sadness, fear, anxiety, or boredom produces psychic entropy in the mind, a state in which we cannot use attention effectively to deal with external task, because we need it to restore an inner subjective order. Positive emotions like happiness, strength, or alertness are states of psychic negentropy because we don't need attention to ruminante and feel sorry for ourselves, and psychic energy can flow freely into whatever though or task we choose to invest in it (p. 22).

How long and how intensely one sticks by their goals is a function of motivation. Therefore, intentions, goals, and motivations are also representations of psychic negentropy

or negative internal processes (p. 22). They focus psychic energy, establish priorities, and thus create order in consciousness. Without them mental processes become random, and feelings tend to deteriorate rapidly.

Creativity results from the interaction of a system composed of three elements: a culture that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognize and validate the innovation. All three are necessary for a creative idea, product, or discovery to take place (Csikszentmihalyi, 1996, p. 6). Creativity is a process by which a symbolic domain in the culture is changed (p. 8). A creative person is someone whose thoughts or actions change a domain or establish a new domain (p. 28).

Flow

Flow tends to occur when a person faces a clear set of goals that require appropriate responses that provide immediate feedback. This feedback makes it clear how well one is doing. Flow tends to occur when a person's skills are fully involved in overcoming a challenge that is just about manageable. When goals are clear, feedback relevant, and challenges and skills are in balance, attention becomes ordered and fully invested. There is no space in consciousness for distracting thoughts or irrelevant

feeling. The sense of time is distorted: hours seems to pass in minutes (Csikszentmihalyi, 1997, p. 31). "When we are in flow, we are not happy, because to experience happiness we must focus on our inner states, and that would take attention from the task at hand" (p. 32). Only after the task is completed do one reflect on what has been accomplished. Flow is usually reported when people are doing their favorite activity.

In Csikszentmihalyi's studies, nine main elements were mentioned consistently to describe how it feels when an experience is enjoyable: (a) there are clear cut goals every step of the way, (b) there is immediate feedback, (c) there is balance between challenge and skills, (d) action and awareness are merged, (e) distractions are excluded from consciousness, (f) there is no worry of failure, (g) self-consciousness disappears, (h) the sense of time becomes distorted, and (i) the activity become autotelic (there is no reason for doing them other than to feel the experience they provide) (Csikszentmihalyi, 1996, pp. 111-113).

Csikszentmihalyi's studies suggests that the phenomenology of enjoyment or optimal experience has eight components:

1. The experience occurs when confronted with a task one has a chance of completing
2. Concentration is necessary to complete the task

3. Clear goals make concentration possible
 4. There is immediate feedback
 5. Intense involvement with no worries of everyday life
 6. Sense of control over the action
 7. Concern for self disappears yet the sense of self emerges stronger after the flow experience is over
 8. The sense of duration of time is altered.
- (Csikszentmihalyi, 1990, p. 49)

The most universal and distinctive features of optimal experience takes place when people become so involved in what they are doing that the activity becomes spontaneous, almost automatic; they stop being aware of themselves as separate from the actions they are performing (p. 53).

Creative individuals are remarkable for their ability to adapt to almost any situation and to make do with whatever is at hand to reach their goals (Csikszentmihalyi, 1996, p. 51). Creative persons differ from one another in a variety of ways, but in one respect they all are unanimous: They all love and enjoy what they do. Achieving fame does not drive them, but doing work that they love does (p. 107).

Ten dimensions of complexity were discovered from Csikszentmihalyi's work. These are:

1. Great physical energy
2. Simultaneously smart and naive
3. Combination of playfulness and discipline, or responsibility and irresponsibility
4. Alternate between imagination and fantasy at one end and a rooted sense of reality at the other

5. Seem to harbor opposite tendencies on the continuum between extroversion and introversion
6. Simultaneously humble and proud
7. Escape from rigid gender roles of stereotyping
8. Rebellious and independent
9. Passionate about their work yet extremely objective and
10. The openness and sensitivity often exposes them to suffering and pain yet also a great deal of enjoyment. (Csikszentmihalyi, 1996, pp. 58-73)

Creativity can be enhanced by changing the field and making it more sensitive and supportive of new ideas by producing a greater number of creative individuals.

Csikszentmihalyi's studies show seven major elements in the social milieu that help make creative contributions possible: training, expectations, resources, recognition, hope, opportunity, and reward (Csikszentmihalyi, 1996, p. 330). Csikszentmihalyi's studies have placed his work far beyond traditional creativity research. His authentic concern for society, growth of human development, and vision for a better future symbolizes a genuine humanistic philosophy. His qualitative studies reveal positive characteristics that are attainable with practice.

Adult Learning

During the 1970s and 1980s, there was a shift in emphasis from adult education to adult learning. The shift indicated a move toward a field of study with the focus on

the individual learner (Fellenz & Conti, 1989, p. 1). The two identifying characteristics of adult learning most frequently advanced by theorist are the adult's independence of direction in the act of learning and the use of personal experience as a learning resource (Simpson, 1980). A number of respected theorists have contributed to identifying generalizable principles of adult learning in their quest to build a theory of adult learning that would aid practice (Brookfield, 1988, p. 26).

The search for a theory of adult learning led Gibb (1960) toward the direction of presenting the following principles of adult learning as the basis for a "functional" theory: (a) learning must be problem centered, (b) learning must be experience centered, (c) experience must be meaningful to the learner, (d) the learner must be free to look at experience, (e) goals must be set and pursued by the learner, and (f) the learner must have feedback about progress toward goals. Miller (1964) identified six essential conditions for learning premised on the belief that at the higher levels of human development in adulthood cognitive models of learning rather than behaviorist ones, were necessary. Thus, Miller argued that: (a) Students must be adequately motivated to change behavior, (b) they must have a clear picture of the behavior, (c) they must have the

opportunity to practice required behaviors, (d) they must obtain reinforcement of correct behavior, and (e) they must have a sequence of appropriate materials.

In his review of theories of learning and their applicability to adulthood, Kidd (1973) identified the concepts that he felt informed the efforts of researchers into adult learning. These concepts were derived from: (a) the changing conditions of the adult's life span, (b) role changes, (c) the studentship and membership, (d) maturation, (e) adult experience, (f) the self-learner, (g) the significance of time, and (h) attitudes surrounding aging and the prospect of death (p. 39).

Alan Knox (1977) produced a widely referenced study of adult development and learning in which he offered a number broad observations concerning adult learning. Knox's believed that adults learning achievements were modified by individual characteristics. The learning context of the physical, social, and personal characteristics surrounding the learning act and the pace of learning affect the learning achievement. Other findings from Knox's survey were that effective learning entailed an active search for meaning in which new tasks were somehow related to earlier activities.

Robert Smith (1982) identified six general observations concerning the nature of understanding adult learning: (a) it is lifelong, (b) it is personal and natural, (c) learning involves change, (d) learning is a function of human development, (e) learning pertains to experience, and (f) learning is intuitive (pp. 35-36). Smith believed that adult learners exhibit four essential characteristics: (a) Their special orientation to learning, (b) their experiential base, (c) their particular developmental changes and tasks, and (d) their anxiety regarding learning generate certain conditions for learning (p. 36).

Tough (1971) had a major effect on the adult education field by providing early insights into what he described as "a major, highly deliberative effort to gain certain knowledge and skill (or to change in some other way)" (p. 1). Tough studied and interviewed adults engaged in learning projects in groups, private lessons, and self-planned learning. He attempted to answer "what and why adults learn, how they learn, and what help they obtain" (p. vii).

Tough (1971) concluded that adults learn in many ways, that they accomplish learning projects in stages or episodes, and that deciding and planning are important elements of the process (p. 4). Learning strategy research is seeking answers to describe elements of the deciding and

planning processes. While focused on adults, in time it may lead to additional developments to assist all levels of learning.

One result of focusing on adult learning rather than teaching has been an increase in research "on helping learners to expand their learning abilities through 'learning-how-to-learn' interventions" (Knowles, 1984, p. 166). A leader in learning-how-to-learn research, Smith (1982) acknowledged that learning how to learn had different meanings to different writers. He preferred the broad definition: "Learning how to learn involves possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters" (p. 19). The three interrelated learning-how-to-learn subconcepts are "learner's needs (what learners need to know and be able to do for success in learning), learning style (a person's highly individualized preferences and tendencies that influence his or her learning), and training (organized activity, or instruction, to increase people's competence in learning)" (p. 17). Smith outlined several illustrations of what he considered the learning how to learn concepts to be operative. Among them is "when a person decides to better organize the learning projects he or she carries out at

home" (p. 20). This concept of learning how to learn is fundamental to learning strategy preference research.

Andragogy

Malcolm Knowles (1968) proposed "a new label and a new technology" of adult learning to distinguish it from pre-adult schooling (p. 351). Knowles (1980) defined andragogy as "the art and science of helping adults learn" in contrast with pedagogy, the art and science of helping children learn (p. 43). Andragogy was the connection to shape the identity of adult education as an independent area of education.

Andragogy is a term that 'belongs' to adult education" (Merriam & Brockett, 1996, p. 135). However, its original can be traced to a German grammar school teacher, Alexander Kapp used the word in 1833 to describe Plato's educational theory (Knowles, Holton & Swanson, 1998). The term was acknowledged by those opposing its use to portray Plato as a simple teacher. The opposition was influential, and Kapp's theory and the term andragogy disappeared for nearly a 100 years (p. 59).

The term andragogy was found again used in 1921 by German social scientist Eugen Rosenstock who until 1962 believed he invented the term (Knowles, Holton & Swanson, 1998). Rosenstock "expressed the opinion that adult education required special teachers, special methods, and a

special philosophy" (p. 59). Rosenstock used the term on a number of occasions, but it did not receive general recognition from his work. Knowles found several adult education publications in the 1950s in Europe which included andragogy in the titles (Merriam & Brockett, 1996). The term andragogy was used in the United States by Eduard Lindeman in 1926. However, "the current evolution of andragogy to refer to the primary means of teaching adults grew out of writings of Malcolm Knowles in the late 1960s and early 1970s" (p. 135).

The five assumptions underlying andragogy describe the adult learner as someone who (a) has an independent self-concept and who can direct his or her own learning, (b) has accumulated a reservoir of life experiences that is a rich resource of learning, (c) has learning needs closely related to changing social roles, (d) is problem-centered and interested in immediate application of knowledge, and (e) is motivated to learn by internal rather than external factors. From these assumptions Knowles (1980) described the seven-step andragogy program development model: (a) The creation of a climate conducive to adult learning, (b) the creation of an organizational structure for participative planning, (c) the diagnosis of needs for learning, (d) the formulation of directions of learning (objectives), (e) the development

of a design of activities, (f) the operation of the activities, and (g) the re-diagnosis of needs for learning (evaluation) (p. 59).

Although generally embraced by adult educators, there have been concerns raised about andragogy. Merriam and Brockett (1996) highlighted two of the concerns. They are (a) whether there are situations in which children can also be self-directed or draw from previous experience and (b) what happens when an adult entering a learning situation has little or no experience in the area of study (pp. 135-136). Perhaps in response to the concerns expressed, a review of his writings shows that over time Knowles "clarified, expanded, and modified his ideas about andragogy" (p. 136).

Although the word "andragogy" makes a neat contrast with the more familiar and traditional word of "pedagogy", the contrast appears difficult to maintain. "Andragogy means more than just helping adults learn; it means helping human beings learn, and that it therefore has implications for the education of children and youth" (Knowles 1970, pp. 38-39). Knowles (1978), however, refers frequently in his writings to the "unique characteristics of adults as learners" and to andragogy as a "comprehensive theory of adult learning" (p. 28). In Knowles earlier words it was not clear whether he was advocating two distinct approaches to teaching, one

for children and a different one for adults, or whether he was suggesting that andragogy should replace pedagogy as a sounder approach to the education of both children and adults. Many believed that there was no theory of adult learning but, rather, a theory of instruction purporting to offer guidance to teachers in general.

Self-Directed Learning

Adult learning is a pervasive aspect of the modern world. Tough (1979) found that approximately 90% of adults are involved in at least one primary learning effort each year; the typical adult carries out five learning efforts annually. Approximately 70% of those adults involved in learning endeavors engage in self-directed learning projects. Knowledge of both the universality and the nature of self-directed learning in adults have significantly altered the nature of inquiry in adult learning.

Self-directed learning has been ushered into the forefront of educational research and programming; this is due to the increasingly brief amount of time, knowledge, information, and skills that remain applicable and relevant (Knowles, 1975, p. 15). Self-directed learning is one of the basic tenets of andragogy endorsed by Malcolm Knowles. He maintained:

In its broadest meaning, "self-directed" learning describes a process in which individuals take the

initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (Knowles, 1975, p. 18)

Clearly, this is a departure from the customary role in which learners have been placed in the formal educational process. Self-directed learning is very potent due to the fact that motivation originating from this form of education is generally internally derived (Knowles, 1980, p. 55). Outside entities such as educators or a learner's parents or spouse and external factors such as grades tend to have little impact on adult student's performance.

A common misconception of self-directed learning is that this type of learning takes place either in isolation or in a vacuum. However, adult educators can play an exceedingly integral role in the transaction (Knowles, 1975). "Their part in this process is that of helper, guide, encourager, consultant, and resource not that of transmitter, disciplinarian, judge, and authority" (Knowles, 1980, p. 37). "To many practitioners, the term self-directed learning conjures up images of isolated individuals busily engaged in determining the form and content of their learning efforts and controlling the execution of these efforts in an autonomous manner" (Brookfield, 1986, p. 56).

In actuality, self-directed learning alters but does not diminish the importance of the instructor's role. Self-directed learning entails an interdependent relationship with the instructor and learner as equal partners in a collaborative learning environment.

Self-directed learning in adulthood, therefore, is not merely learning how to apply techniques of resource location or instructional design. It is rather, a matter of learning how to change our perspectives, shift our paradigms, and replace one way of interpreting the world by another.

(Brookfield, 1986, p. 19)

In this process the learner focuses upon personally determined goals and interests as well as creates an individualized path of inquiry.

Self-evaluation is a central theme of self-directed learning. "At the heart of self-directedness is the adult's assumption of control over setting educational goals and generating personally meaningful evaluative criteria" (Brookfield, 1986, p. 19). The instructor, therefore, must be willing to allow adult students primary responsibility for assessing both current functioning and desired functioning in critical areas. Self-appraisal allows learners both to maximize learning and to become personally and actively involved in the learning process.

Learning How to Learn

As a result of a career-long exploration of the development of adults' learning-how-to-learn capacities, Robert M. Smith believed that people need to know about learning itself in order to become successful in learning. If one possesses the necessary knowledge and skill, then one has learned-how-to-learn (Smith, 1982, p. 19). One important element in facilitating learning is helping learners become aware of their own distinctive learning styles (Brookfield, 1988, p. 64).

Adult education is a process (Smith, 1976, p. 6). It is important to involve the learner in every phase of the process. It is as important to teach adults how to learn as it is to specify particular curricular domains for learning (Brookfield, 1988, p. 64). Critical to this process is the development of each learner's awareness and capacity for effective self-monitoring and active reflection (Smith, 1991, p. 11).

Involving the learner in the learning process includes participation in planning, conducting, and evaluating learning activities (Smith, 1976, p. 6). These concepts are used by many self-directed and novice musicians during the creative process. For example, (a) planning establishes how adult learners identify their needs and set goals as they select resources and strategies. The self-directed musician

identifies skill levels, selects the appropriate materials, and determines the effective strategy for achieving musical success; (b) conducting, or negotiating selected procedures and resources as they learn to give and receive feedback. The self-directed musician critically reflects performance and makes the necessary adjustments to obtain musical success; (c) and evaluating is how adult learners measure how efficiently their goals are met. The self-directed musician accepts limitations and continues to strive for musical perfection.

The Reflective Practitioner

The connection between creativity and Donald Schön's theories are understandably linked. Adjusting and refining the processes of learning to accomplish the creative act by reflecting on the activity is one method used during a problem-solving activity. Donald Schön has made a remarkable contributions to the understanding of the theory and practice of learning. His innovative thinking around notions such as the learning society, double-loop learning and reflection-in-action has become part of the language of education. Donald Alan Schön (1930-1997) trained as a philosopher, but it was his concern with the development of reflective practice and learning systems within

organizations and communities for which he is remembered (Smith, 2002).

Schön's definition of professional artistry refers to the kind of competence practitioners sometimes display in unique, uncertain, and conflicted situations of practice (Schön, 1987, p. 22). Often such processes of recognition or appreciation take the form of normative judgement. "In the very act by which we recognize something, we also perceive it as right or wrong" (p. 23). Competent and experienced professionals use reflection-in-action as a regular part of their practice although they many not verbalize their actions. This form of reflective practices allows professionals to go beyond the routine application of rules, facts, and procedures and gives them the freedom to practice their craft more as a professional artistry where they create new ways of thinking and acting about problems of practice (Merriam & Caffarella, 1999, p. 237).

The initiation of reflective practice involves using data in some form, which almost always includes one's current past and current experiences (Merriam & Caffarella, 1999, p. 232). Knowing-in-action is the know-how people reveal in their intelligent action that is publicly observable. It is revealed by spontaneous, skillful execution of the performance that one cannot verbally

explain (Schön, 1987, p. 25). When one does not think about doing something, then one can execute smooth sequences of activity, recognition, and decisions. Occasionally, knowing-in-action is confronted with new dilemmas that challenge prior ways of thinking that do not fit into new unfamiliar developments.

Reflective practitioners are individuals who find new knowledge, test it through application, reflect on the results, and use the outcome to direct themselves toward further information they need (Schön, 1987). Knowing-in-action is "the know-how we reveal in our intelligent action, publicly observable, physical performance.... We reveal it by our spontaneous, skillful execution of the performance; and we are characteristically unable to make it verbally explicit" (p. 25). The creative musician makes unique choices to direct the output of the compositional piece. These choices are spontaneous movements within a creative musical structure that manipulates the instrument to the performers satisfaction.

Reflection-in-action is defined as "thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome" (Schön, 1987, p. 26). When the performer plays notes that are not within the musical context, the musician's creative

awareness shifts to different modes of theoretical expressions. The experienced improvisational musician understands that there are no wrong notes, but how the musician approaches and departs from notes leaves the listener with the mood of the musical composition.

When good jazz musicians improvise together, they similarly display reflection-in-action smoothly integrated into ongoing performance. Listening to one another, listening to themselves, they "feel" where the music is going and adjust their playing accordingly.... Improvisation consists in varying, combining, and recombining a set of figures within a schema that gives coherence to the whole piece. As the musicians feel the directions in which the music is developing, they make new sense of it. They reflect-in-action on the music they are collectively making—though not, of course, in the medium of words. (Schön, 1987, p. 30)

Reflection involves a review of the way we have consciously, coherently, and purposefully applied ideas in processing and implementing each phase of solving a problem (Mezirow, 1991, p. 101). Critical reflection enhances musical knowledge and gradually evolves the musician/composer's learning experiences into unique performing characteristics. These unique characteristics combined with the performer's learning strategies, predict the techniques and skills the musician/composer will use.

Summary

Learning styles, learning strategies, and creativity are three concepts that learners utilize during the

discovery process. These concepts maybe combined to form insights for evaluating originality to generate innovative ideas. The adult education literature has also presented several constructs related to creativity. First, one could suggest that the adult learner consistently exercises the processes of creativity when engaged in goal-oriented task. Second, the adult learner must utilize creative constructs when pursuing higher levels of learning or attempting to learn something new and unknown. Finally, the adult learner in higher education, is exposed to domain-professionals that encourage exploration of critical thinking and upper levels of learning. The constructs of creativity are the essence of adult education principles that adult learners utilize to achieve their goals toward success.

CHAPTER 3

METHODOLOGY

Design

This descriptive study was subdivided into two sections using both quantitative and qualitative methods. The first section investigated the learning strategies and learning styles of students at Berklee College of Music. Data were collected with a 16-question survey using closed-ended items emphasizing personal music learning preferences and demographic information. The Learning Style Inventory (LSI) was used to measure learning styles and Assessing The Learning Strategies of Adults (ATLAS) was used to identify learning strategy preferences. Two from each ATLAS learning strategy group, totaling six students, were interviewed using open-ended items emphasizing creativity concepts.

The second section of this study involved 30 Naturally-trained musicians from different music genres in Tulsa, Oklahoma. The LSI, ATLAS, and the questionnaire were also used to determine their learning style and learning strategy preferences. Four persons from each learning strategy group, totaling 12 Naturally-trained musicians, were also

interviewed using open-ended items emphasizing creativity constructs.

This was a descriptive study that employed both quantitative and qualitative methods. Descriptive research tests hypotheses and answer questions concerning participants' current status, and it reports "the way things are" (Gay, 1987, p. 11). In addition, this design is "generally asking questions that have not been asked before" (p. 11). Descriptive data are often collected through a survey or questionnaire, an interview, or observations of individuals or groups (Gay, 1987, p. 11). This descriptive design involved "in-depth data collection involving multiple sources of information rich in context" (Cresswell, 1998, p. 61).

This research described and explored adult learning preferences. The quantitative data was approached from three perspectives. First, it examined if Berklee College of Music students and Naturally-trained musicians in Tulsa, Oklahoma fall predominantly into one of the learning style preferences on the Kolb's Learning Style Inventory. Second, it compared the distribution of groups on Assessing The Learning Strategies of Adults to the norms for the instrument and to

examine relationships between creativity, the LSI, ATLAS, and demographic factors. In addition, qualitative data was gathered to explore the perceptions and development of the creative music process taken by Traditionally-trained and Naturally-trained musicians in learning situations.

Specifically, the quantifiable data were gathered with three instruments. These were a 16-question creativity survey, the LSI, and ATLAS. The data from these instruments were used to provide a profile of the students and to facilitate statistical analyses using chi square analysis, analysis of variance, cluster analysis, and discriminant analysis. Demographic data were gathered in the areas of gender, age, and race.

Constructs were identified related to creativity. In order to measure constructs, they must be operationally defined in terms of processes or operations that can be observed or measured (Gay & Airasian, 2000, p. 147). A review of the creativity literature has helped in developing a conceptual framework. Establishing a conceptual framework and recognizing and discussing theories, concepts, and factors that are part of the study are essential to developing research. It is helpful to discover what concepts

and procedures other researchers have used in pursuing the same or similar lines of inquiry (Merriam & Simpson, 1984, p. 8). The conceptual frameworks identified in the creativity literature suggest a need for the continuation of exploratory research (Runco, 2000).

"The research process can be described as testing well-developed theory, clarifying or refocusing tentative theories, or developing new theory" (Merriam & Simpson, 1984, p. 7). A research study can also be a contribution if it leads to new problems and questions (Fox, 1969, p. 107). Not finding what is expected may raise additional questions and may prove more productive than simply supporting a hypothesis or answering a question (Merriam & Simpson, 1984, p. 16). If the researcher determines that no theory fits the phenomenon under investigation, then a hypotheses is suggested that encompasses and explains the new phenomenon (p. 20).

"Research designs are invented to enable researchers to answer research questions as validly, objectively, accurately, and economically as possible" (Kerlinger, 1986, p. 280). The objective of a descriptive study, as the name implies, is to describe some phenomenon. The central focus

of descriptive research is to examine facts about people, their opinions, and their attitudes. (Kerlinger, 1986).

Descriptive research:

Involves collecting data in order to test hypotheses or answer questions concerning the current status of the subject of the study. A descriptive study determines and reports the way things are.... The descriptive researcher has no control over what is, and can only measure what already exist. (Gay, 1987, p. 189)

This research used a descriptive design that was exploratory in nature.

Exploratory Research Method

Quantitative and Qualitative data were analyzed to explore creative learning themes for musicians and examine assumptions and theories of learning preferences during the creative process. Exploratory studies are very valuable in social scientific research. They are instrumental when the researcher is breaking new ground, and they can yield new insights into a topic for research (Babbie, 1989, p. 81).

"Exploratory studies are undertaken when relatively little is known about something, perhaps because of its deviant character or its newness" (Singleton, Straits, Straits, & McAllister, 1988, p. 90). When attempting to explore a topic or phenomenon about which one knows very little, one

necessarily begins with a general description of the phenomenon. There are no clearly delineated independent and dependant variables and, therefore, no categories within which to classify what one sees. "For these reasons, the research plan in an exploratory study is more open than in other kinds of research" (p. 90). The researcher simply wants to know what is going on. The purpose is to gather information so that a description of what is going on can be made (Dixon, Bouma, & Atkinson, 1987, p. 108).

The creativity literature acknowledges many theories and assumptions of the creative process. Theory is "a system for explaining a set of phenomena by specifying constructs and the laws that relate these constructs to each other" (Borg & Gall, 1989, p. 25). With the objective of testing or verifying a theory rather than developing it, the researcher advances a theory deductively, collects data to test it, and reflects on the confirmation or disconfirmation of the theory by the results (Creswell, 2003, p. 125). The investigator locates an instrument to use in measuring or observing attitudes or behaviors of participants in a study. Then the investigator collects scores on these instruments to confirm or disconfirm theory (pp. 125-126).

Quantitative Research Methods

Underlying quantitative research methods is the assumption that humans inhabit a relatively stable, uniform, and coherent world that can be measured, understood, and generalized. The quantitative perspectives of research believe that the world is not considered meaningful unless it can be verified through direct observation (Borg & Gall, 1989, p. 9). "Quantitative procedures are used to describe current conditions, investigate relationships, and study cause-effect phenomena" (Gay & Airasian, 2000, p. 11). Quantitative methods of research are based on the collection and analysis of numerical data, usually collected from questionnaires, test, checklists, and other formal paper-and-pencil instruments (p. 8).

The goal of research into the nature of mental abilities should be the understanding of the processes.

Quantitative factorial methods were developed for the study of individual differences among people but the individual differences may be regarded as an avenue of approach to the study of the processes which underlie these differences. (Thurstone, 1947, p. 55).

The processes of creatively learning music include many complex human variables that cannot be analyzed only by

systematic approaches. Other personal characteristics of musicians and creative music learning need further exploration to discover unexplainable behaviors that cannot be recognized and interpreted by only quantitative research methods.

Qualitative Research Methods

Qualitative research for education takes many forms and is conducted in many settings. Qualitative research is a term used to refer to several research strategies that share certain characteristics. The data collected has been termed soft; that is, it is rich in description of people, places, and conversations and not easily handled by statistical procedures (Bogdan & Biklen, 1982, p. 2). Research questions are not framed by operationalizing variables; rather, they are formulated to investigate in all their complexity in context. While people conducting qualitative research may develop a focus as they collect data, they do not approach the research with specific questions to answer or hypotheses to test. They are concerned as well with understanding behavior from the participant's own frame of reference. External causes are of secondary importance. Qualitative researchers collect their data through sustained contact

with people in settings where participants normally spend their time.

Others use different terms and conceptualize research slightly differently. Field research is a term that is sometimes used by anthropologists and sociologists, and its use derives from the fact that data tend to be collected in the field as opposed to laboratories or other researcher controlled sites. In education, qualitative research is frequently called naturalistic because the researcher hangs around where the events of interest naturally occur and the data is gathered by people engaging in natural behavior such as talking, visiting, looking, or eating (Guba & Lincoln, 1981; Wolf, 1979). Ethnographic is a phrase that is applied to the approach as well. While some use it in a formal sense to refer to a particular type of qualitative research in which most anthropologists engage and which is directed at describing culture, it is also used more generally, sometimes synonymously, with qualitative research. Other phrases are associated with qualitative research. They include symbolic interactionist, inner perspective, phenomenological, case study, interpretive, ethnmethodological, ecological, and descriptive. The exact

use and definition of these terms varies (Bogdan & Biklen, 1982).

The best known representatives of qualitative research are participant observation and in depth interviewing. With these, the researchers enter the world of the people they plan to study and systematically keep a detailed written record of what is heard and observed. This material is supplemented by other data such as memos and records, newspaper articles, and photographs. The researcher's goal is to understand in considerable detail how people think and how they came to develop the perspectives they hold (Bogdan & Biklen, 1982, p. 3). This goal often leads the researcher to spend considerable time with participants in their own environments, asking open-ended questions. The open-ended nature of the approach allows the participants to provide information from their own frame of reference rather than from one structured by prearranged questions. In this type of interviewing, questionnaires are not used; while loosely-structured interview guides may sometimes be employed, most often the researcher is the only instrument, and works at getting the participants to freely express

their thoughts around particular topics. Because of the detail sought most studies have small samples.

Criteria for judging adequacy are called the parallel or foundational criteria because they are intended to parallel the rigor criteria that have been used within the conventional paradigm. Conventional criteria for judging the rigor of inquiries include internal validity, external validity, and objectivity which are defined within a positivist paradigm (Guba & Lincoln, 1989, pp. 233-234). Within the framework of logical positivism, the forgoing criteria are perfectly reasonable and appropriate.

Internal validity handles the question of how one's conclusions match reality (Merriam, 1988, p. 166). Internal validity is defined as "the extent to which variations in an outcome or dependent variable can be attributed to controlled variation in an independent variable" (Guba & Lincoln, 1985, p. 29). There are a number of threats to the internal validity of any inquiry including history, maturation, testing, instrumentation, statistical regression, differential selection, experimental mortality, and selection. The inquiry design must compensate either by controlling and or by randomizing processes.

External validity can be defined as "the approximate validity with which we infer that the presumed causal relationship can be generalized to and across alternate measures of the cause and effect and across different types of persons, settings, and times" (Cook & Campbell, 1979, p. 37). Similar to threats to internal validity, there are threats to external validity including selection effects, setting effects, history effects, and construct effects (Guba & Lincoln, 1985, pp. 291-92).

Reliability responds to questions about the consistency of a given inquiry and is typically a precondition for validity. Thus, a study that is unreliable cannot possess validity (Guba & Lincoln, 1985, p. 292). Among certain research approaches, the expectation exists that there will be consistency in results of observations made by different researchers or the same researcher over time. Reliability refers to the extent to which one's findings can be replicated (Merriam, 1988, p. 170).

Objectivity responds to neutrality and requires a demonstration that a given inquiry is free of bias, interests, motivations, prejudice and or values (Guba & Lincoln, 1989, p. 235). It is related to the integrity of

the researcher and the honesty with which the findings are reported. Objectivity is often defined as giving equal weight to all the information one gathers or as having no point of view when one undertakes research (Bogdan & Biklen, 1982, p. 217).

For the constructivist, the traditional positivist criteria for judging adequacy is not appropriate (Guba & Lincoln, 1989, p. 235). Internal and external validity can have little meaning if "the realities to which one might wish to generalize exist in different forms in different minds, depending on different encountered circumstances and history, based on different experiences, interpreted within different value systems" (p. 236). If the phenomenon being assessed changes and change is fundamental to the growth and improvement of constructions then reliability is useless as a goodness criterion. "Goodness criteria are themselves rooted in the assumptions of the paradigm for which they are designed; one cannot expect positivist criteria to apply in any sense to constructivist studies" (Morgan, 1983).

Lincoln and Guba (1985) developed criteria for judging adequacy that are parallel to the conventional four of internal and external validity, reliability, and

objectivity. They explored credibility to establish a match between the constructed realities of respondents and those realities as represented by the evaluator. Ways to check for this include:

1. Prolonged engagement—substantial involvement at the site of inquiry to overcome effects and immerse oneself into the culture.
2. Persistent observation—permits identifying characteristics and elements in detail.
3. Peer debriefing—discussions of findings, conclusions, and tentative analysis with someone who has no contractual interest in the situation.
4. Negative case analysis—rejection of all rival hypotheses.
5. Progressive subjectivity—monitoring the evaluator's developing construction.
6. Member checks—testing hypotheses, date, preliminary categories, and interpretations with members of the stakeholding groups from whom the original constructions were collected.
7. Transferability—empirical process for checking the degree of similarity between sending and receiving contexts.
8. Dependability—auditing trustworthiness.
9. Confirmability—assuring that data, interpretations, and outcomes of inquiries are rooted in contexts and persons apart from the evaluator. (pp. 236-239)

In this study prolonged engagement occurred by spending adequate time with the respondents at Berklee College of Music and also with the musicians in Tulsa, Oklahoma. This engagement with the participants created rapport and

established a level of trust before the interviews. The researcher is a graduate from Berklee College of Music and continues to be involved within music culture. Hence, knowledge of the musician's culture was an integrated part of the qualitative data collection. Persistent observation, negative case analysis, transferability, dependability, and confirmability were established by peer debriefing with other graduate students at several conclusion discussion meetings.

Paradigm Shifts

Researchers have use two types of investigation processes available to them. First is quantitative research, which employs numerical indicators to ascertain the relative size of a particular communication phenomenon. The second type of investigation process is qualitative research, which employs symbols and words to indicate the presence or absence of phenomena or categorize them into different types. These methods provide researchers with different ways of operationalizing and understanding theoretical constructs and practical concepts. While quantitative methods can provide a high level of measurement precision and statistical power, qualitative methods can supply a greater

depth of information about the nature of communication processes in a particular research setting.

The scientific inquirer sees the world as a series of real entities and steady processes, all of which are pieced into a series of independent subsystems. The fragments or variables form the focus for disciplined inquiry. In contrast, naturalistic inquirers make virtually the opposite assumptions. "They focus upon the multiple realities that, like the layers of an onion, nest within or complement one another. Each layer provides a different perspective of reality, and none can be considered more true than any other" (Guba & Lincoln, 1981, p. 56). The focus of naturalistic inquiry is as often on differences as on similarities; subtle differences are sometimes felt to be more important than gross similarities.

This study employed both quantitative and qualitative methods of inquiry. The researcher experienced a number of advantages of applying both quantitative and qualitative methods in this research. Quantitative methods ensured high levels of reliability of gathered data. Qualitative method allowed for obtaining more in-depth information about how the musicians perceived music learning preferences and its

relationship with creativity. The use of different research methods allowed building on the strengths of each method and minimizing their weaknesses. The weaknesses of the quantitative method, such as failure to provide information about the context of the situation, inability to control the environment, and pre-determined outcomes, were compensated by interacting with the research participants during interviews, learning about the context, and uncovering new research themes. The weaknesses of the qualitative method, such as departing from the original objectives of the research, excessive subjectivity of judgment, and high requirements for the experience level of the researcher, were compensated by clearly stating the research problem, cross checking with the results of the statistical analyses, and developing a strong theoretical foundation of the research. Using both methods of inquiry facilitates high reliability of data, understanding the contextual aspects of the research, flexibility and openness of the data collection, and a more holistic interpretation of the research problem.

Paradigms impose a view of events in the world, suggest a framework for organizing these observations, and direct

attention to events worth noting (Kuhn, 1962). Communication between adherents of various world views is difficult.

To the extent, as significant as it is incomplete, that two scientific schools disagree about what is a problem and what a solution, they will inevitably talk through each other when debating the relative merits of their respective paradigms. In the partially circular arguments that regularly result, each paradigm will be shown to satisfy more or less the criteria that it dictates for itself and to fall short of a few of those dictated by its opponent. . . . Both are looking at the world, and what they look at has not changed. But in some areas they see different things and they see them in different relations one to another. (Kuhn, 1962, p. 149)

When ideas evolve and emerge and when paradigms shift, it can lead to conflict. The pressure in educational research has been toward using the two methods of quantitative and qualitative research alongside each other. In applied research, the use of the two approaches in the same project is accepted, yet serious objections still raise to such work when it is presented in a more formal context. When paradigm conflicts materialize, they can create ambiguous meanings that can confuse the reader's perspective of a study. These different paradigms can separate valuable concepts that are structured as a collective whole. Therefore, the researcher

must alert readers of possible paradigm shifts and use caution when merging quantitative and qualitative methods.

Survey Methods

The most common technique used for gathering data in descriptive research is the survey (Merriam & Simpson, 1984, p. 62). A 16-question survey was used to gather and analyze creativity constructs. Sample surveys attempt to determine the incidence, distribution, and interrelations among sociological and psychological variables, and in so doing, they usually focus on people, the vital facts of people, and their beliefs, opinions, attitudes, motivations, and behavior (Kerlinger, 1986, p. 378). Surveys can be conveniently classified by the following methods of obtaining information: personal interview, questionnaire, panel, and telephone (p. 378).

Questionnaires are devices for measuring variables. Each question asked must have some intended bearing on one of the variables the researcher is studying. Curiosity is not an adequate motivation for choosing a question on a questionnaire (Dixon, Bouma, & Atkinson, 1987, p. 79). "Most criticisms of questionnaires are related not to their use but to their misuse" (Gay & Airasian, 2000, p. 280). The

questionnaire needs to define the problem and list specific objectives to be achieved or hypotheses to be tested.

Graduate students frequently develop questionnaires before securing a clear understanding of what needs to be obtained from the results (Borg & Gall, 1989, p. 424). Many types of items are commonly used in questionnaires, including scaled items, ranked items, checklist items, and free-response items (Gay & Airasian, 2000, p. 282).

Researchers have two options when asking respondents questions: opened-ended or closed-ended. When asking open-ended questions the respondents are asked to provide their own answer to the question. When asking closed-ended questions the person is instructed to select from a list provided by the researcher (Babbie, 1989, p. 140). Closed-ended questions provide a greater uniformity of responses and are more easily processed. Closed-ended, or focused, questions are prepared prior to the interview, and the respondent is expected to answer in terms of the interviewer's framework and definition of the problem. Opened-ended, or unstructured, questions are free flowing, and they are likely to move however the respondent causes it to move because of the cues the opened-ended questions

provides (Guba & Lincoln, 1981, pp. 165-166). Closed-ended and open-ended questions were used for this study.

Instruments with closed-ended questions were used to gather quantitative data related to learning style and strategy preferences and to creativity. Opened-ended questions were used in the interviews to gather qualitative data.

Open-ended questions are designed to permit a free response from the person rather than one limited by stated alternatives or implied boundaries. "The resulting material from an open-ended question may be a veritable goldmine of information, revealing respondents' logic or thought processes, the amount of information they posses, and the strength of their opinions or feelings" (Singleton, et al., 1988, p. 265).

The distinguishing characteristic of open-ended questions is that they raise an issue but do not provide or suggest any structure for the participant's reply; the participant is given the opportunity to answer in their own terms and to respond from or create their own frame of reference. (Guba & Lincoln, 1981, p. 177)

Such questions are called for when the problem is complex, the relevant measurements are not known, or the interest of the researcher lies in the description of a phenomenon, the exploration of a process, or the individual's formulation of

an issue. It is especially useful for eliciting unexpected responses and unique perspectives (pp. 177-178). Frequently the researcher's understanding of the topic is clarified and even completely changed by unexpected responses to open questions (Singleton, et al., 1988, p. 265).

Interview Methods

The interview is probably humankind's oldest and most often used device for obtaining information. It has important qualities that objective test and scales and behavioral observations do not possess. The interview is a psychological and sociological measuring instrument defined as a conversation with purpose (Dexter, 1970, p. 136). There are three main kinds of human-to-human measures for collecting data in naturalistic evaluation: interviewing, observation, and nonverbal communication (Guba & Lincoln, 1981, p. 153). The focus of the interview can be on one or many areas such as (a) participants' prior history, (b) attitudes, (c) perceptions, (d) knowledge, (e) concerns, and (f) interpersonal relations (Gay & Airasian, 2000, p. 221).

An interview can be used for three main purposes. First, it can be an exploratory device to help identify variables and relations, to suggest hypotheses, and to guide

other phases of the research. Second, it can be the main instrument of the research. Third, the interview can supplement other methods by exploring unexpected results, validating other methods, and going deeper into the motivations of respondents and their reasons for responding as they do (Kerlinger, 1986, p. 440).

The fundamental principle of qualitative interviewing is to provide a framework within which participants can express their own understanding in their own terms (Patton, 1980, p. 205). Unstructured interviews explore all possibilities regarding the information sought. This helps identify and define important areas of information that might be studied through other techniques at another time (Merriam & Simpson, 1984, p. 135).

When the purpose is to acquire preliminary data in an area in which little research has been done in order to generate hypotheses, unstructured interviewing is generally preferred (Singleton, et al., 1988, p. 242). Combined with other data gathering approaches, interviews can lead to identifying new topics to explore and can help explain data collection from other methods (Gay & Airasian, 2000, p. 220). "The aim of the qualitative interview is to find out

about the participants, where they are 'coming from', what they believe, experienced, and felt" (p. 222). Interviewing has been adopted by people in applied fields of study where research problems or questions have warranted an exploratory rather than a hypothesis-testing approach (Merriam & Simpson, 1984, p. 95).

Sample

The population is the "group of interest to the researcher" (Gay & Airasian, 2000, p. 122). This is the group to which the researcher would like the study to be generalizable (p. 122). The target population is the group that the researcher is particularly interested in studying and the group that has these sample characteristics. Populations may be any size and may cover any geographical area (Gay, 1996, pp. 112-113). The target population for this study was 109 students at Berklee College of Music in Boston, Massachusetts, and 30 Naturally-trained musicians in Tulsa, Oklahoma. They were adults who were involved in traditional and non-traditional music study, adults involved in professional and non-professional music careers, and adults who are beginning and continuing to develop lifelong creative musical skills.

Sampling is the process of selecting a number of individuals for a study in a way that the individuals represent the group from which they are selected. The individuals selected comprise the sample for the study (Gay, 1996, p. 111). In purposive sampling, the researcher selects a sample based on one's experience or knowledge of the group to be sampled (Gay & Airasian, 2000, p. 138).

Quantitative data were gathered from two groups. One group consisted of 109 Berklee College of Music students, and the other was 30 Naturally-trained musicians in Tulsa, Oklahoma. The Berklee-trained students were enrolled in the summer session from the General and Music Education Departments. Freshmen, sophomores, juniors, and seniors were represented in the sample. Thirty Naturally-trained musicians in Tulsa, Oklahoma, were also selected for this study.

The 30 Naturally-trained musicians were selected by using a snowball sampling method. Snowball sampling selects a few people who can identify other people who might be good participants for a study. This approach is most useful when a study is carried on in a setting in which possible participants are scattered or not found in clusters (Gay &

Airasian, 2000, p. 139). The historical Oklahoma Jazz Hall of Fame in Tulsa, Oklahoma, was used as the starting point for the snowball sample.

Greenwood Jazz Hall of Fame

The Oklahoma Jazz Hall of Fame (OJHF) was created by the Oklahoma State Legislature in 1988. The OJHF arts programs are made possible with generous support from the Oklahoma Arts Council, the Oklahoma Department of Tourism and Recreation, the Oklahoma Historical Society and from Corporate Sponsors.

OJHF's purpose is to promote, preserve, and illuminate the true art forms of jazz, blues and gospel music and to identify, document and honor the Oklahoma musicians who have made significant contributions locally, regionally, nationally, and internationally to its development. OJHF emphasizes promoting educational learning, training, classes and cultural events with and on behalf of disadvantaged youth of all races, creeds, religions and ethnic heritage.

In 2000, OJHF established the Oklahoma Jazz Hall of Fame Singers, Dancers and Jazz High School Band, the Jazz Educational Lab at Central High School, Jay McShann Piano

Clinic for youth, the Summer Arts Institute, Autumn Jazz Concert Series, and the Juneteenth Music Festival. The Oklahoma Jazz Hall of Fame houses a library, main offices, and a Hall of Fame pictorial gallery, featuring an exhibit of legendary inductees, memorabilia and collectibles.

Learning-Style Inventory

Kolb (1984) developed an information processing model that differs from the other information processing models in that it was developed from Kolb's "experiential learning theory". This theory examines not just style but also learning and development. Kolb's theory is based on the work of three researchers: Dewey (1938) who stressed the need for learning to be based in experience, Lewin (1951) who emphasized the importance of learners being active in learning, and Piaget (1952) who presented intelligence as being the outcome of the interaction of the individual and the environment (Paxton & Murrell, 1987, p. 25).

The Learning Style Inventory conceptualized by Kolb describes learning as a four-step process. First, learning begins with a concrete experience. Learners involve themselves totally in the learning experience, and then they reflect on the experience from different perspectives. After

these reflective observations, learners move on to engage in abstract conceptualization where they create generalizations or principles that integrate their observations into sound theories. The next step involves the learner's use of these generalizations or theories as guides to further action.

Lastly, the learners engage in active experimentation, testing what they have learned in new, more complex situations. The end result is another concrete experience, but it is at a more complex level (Kolb, 1976).

The four points on the experiential learning cycle are modes of dealing with information or adapting to the world. Kolb (1976, 1985) developed the Learning Style Inventory in which participants rank order 9 sets of 4 words (the 1976 version) or 12 stem completions (the 1985 version) concerning learning preferences.

Kolb defines learning styles as one's preferred methods for perceiving and processing information. This definition evolved through his four-stage experiential learning cycle from which he identified four adaptive learning modes: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). CE and AC form a continuum that represents how one

prefers to perceive the environment or grasp experiences in the world. RO and AE form another continuum that represents how one prefers to process or transform incoming information (Kolb, 1984, p. 65).

Each of these four learning modes has unique characteristics. Abstract individuals comprehend information conceptually and symbolically. Concrete individuals rely on or apprehend by the tangible, felt qualities of immediate experience. Active individuals extend the environment by external manipulation. Reflective individuals exhibit intention by internal reflection on the external world.

By combining the perception and processing continuums, Kolb (1984) differentiated four basic ways of relating to the world as four types of learning styles: Divergers, Assimilators, Convergers, and Accommodators. For Divergers, experience is grasped concretely through feelings (apprehension) and transformed through thought (intention). This learning style combines concrete experience with reflective observation. For Assimilators, experience is grasped through abstract comprehension (conceptualizing) and transformed through thought (intention), combining the characteristics of abstract conceptualization and reflective

observation. Experience for Convergers is grasped through abstract comprehension (conceptualizing) and transformed through action (extension), which combines abstract conceptualization and active experimentation. Finally, for Accommodators, experience is grasped concretely through feelings (apprehension) and transformed by action (extension), which combines concrete experience and active experimentation (Kolb, Rubin, & McIntyre, 1971).

The standardized percentile scores, or target and grid normative profiles, were based on a sample of 1,446 adults between the ages of 18 and 60. The sample of 638 men and 801 women was ethnically diverse and represented a wide range of career fields. The average education of members of the sample was 2 years of college. The average raw scale scores for the sample were: CE-26.0, RO-29.94, AC-30.28, AE-35.37, AC-CE-4.28, and AE-RO-5.42 (Kolb, 1999b, p. 3). Inter-correlations among the raw scale scores follow the predictions of experiential learning theory with the strongest negative relationships between AC and CE and between AE and RO and with no relation or statistical independence between AC-CE and AE-RO.

Kolb (1984) admits that the "data do not prove the validity of the structural learning model," but he suggests using the LSI as an "analytic heuristic" for examining the characteristics of learning (p. 76). However, since its first publication in 1971, there have been many studies testing the validity and applicability of experiential learning theory and the Learning Style Inventory (Kolb, 1999b, p. 7). Many fields have used LSI research. For example, the fields of education, psychology, medicine, nursing, accounting, management engineering/sciences, and social work have extensive studies with learning styles.

Hickox (1991) concluded that 83.3% of the studies analyzed provided support for the validity of experiential learning theory and the Learning Style Inventory. The cross-cultural applicability of experiential learning theory and the Learning Style Inventory have been tested in many countries around the world including New Zealand, Australia, Japan, Thailand, Singapore, United Kingdom, Finland, Spain, Canada, China, and Brazil. For example, Yuen and Lee (1994) examined and confirmed the applicability and predictive value of Learning Style Inventory in six schools of a Singaporean University. The LSI has been translated into several

languages such as Spanish, Arabic, French, Swedish, Chinese, and Italian.

Curry (1983) reported that the LSI has an average test-retest reliability of .85 and an internal consistency of .69. He concluded that the test-retest reliability and internal consistency of the LSI is adequate for its role in cognitive style assessment.

Spearman-Brown split-half coefficients reported by Kolb (1976) for the primary scales range from .54 for CE to .73 for AC. Derived scores had split-half coefficients of .79 for AC-CE and .83 for AE-RO. Freedman and Stumpf (1978) report lower alpha coefficients, but they followed the same pattern with CE the lowest at .34 and AC the highest at .70.

The revised and expanded 1985 version of the LSI shows improved reliability. Both the primary and composite scores "show good internal reliability as measured by Cronback's Standardized Scale Alpha" with values in a range from .73 to .88 (Ivey, 1992, p. 71). A study by Romero, Tepper, and Tetrault (1992) that developed new scales to measure Kolb's (1985) learning style dimensions provides support for the reliability (internal consistency and six-week test-retest stability).

Although the LSI has been criticized by some researchers, it was found to be suitable for the purposes of this study. Scores from the LSI were compared in order to examine differences and similarities of the groups.

Assessing The Learning Strategies of Adults

The Assessing The Learning Strategies of Adults (ATLAS) instrument was developed to provide an expeditious way to assess the learning strategies of adult students and to enable facilitators and learners to have results that could be used immediately (Conti & Kolody, 1999). Results from the Self-Knowledge Inventory of Lifelong Learning Strategies (SKILLS) studies were used to create ATLAS. The ATLAS instrument is a booklet with black print that is one-half the size of standard paper size, 8.5" x 11" page. This booklet is bound with a black plastic binding and opened by lifting the outside cover upward. Once opened, one views the directions on the inside cover. Assessment items are printed in a flow chart manner on five different colored cards. A statement about learning in the first box on the page directs respondents to options in the next two boxes of the flow chart on the first page. Arrows connecting the boxes guide the respondent to the options. Selection of an option

leads the respondent to another box which either directs the respondent to continue to another colored card or which gives information about respondent's correct learning strategy group placement (Conti & Kolody, 1999, p. 16).

Three groups of learners were identified through the quantitative research methods of cluster analysis, discriminant analysis, and analysis of variance of the data from the SKILLS research. The three ATLAS learning strategy groups are Navigators, Problem Solvers, and Engagers (Conti & Kolody, 1999, p. 9). These groups have been further described through qualitative research.

With an instrument, validity and reliability are essential. The most important characteristic of any instrument is the validity, which is the degree to which a test measures what it is designed to measure. Content, construct, and criterion-related are the three most recognized types of validity in educational research. Establishing validity is essential and directly related to the credibility of any instrument. Validation of an instrument is a lengthy process.

Construct validity refers to the degree to which a test measures a hypothetical non-observable trait (construct).

Construct validity examines the underlying theory of the test. Results from field-based research studies using the SKILLS were synthesized to establish construct validity for ATLAS. From the consolidation of similar data from many of these studies, researchers identified three groups: Navigators, Problem Solvers, and Engagers (Conti & Kolody, 1999, p. 18).

Content validity is concerned with the degree to which a test measures an intended content area. "For ATLAS, content validity is concerned with the degree to which the items are representative of learning strategy characteristics of the three groups identified in the SKILLS research" (Conti & Kolody, 1999, p. 18). To establish content validity for this instrument, multiple steps were taken with a series of discriminant analyses being conducted to ascertain the variance between each grouping. Findings from the structure matrix for the discriminant analysis were used to determine wording of the items. ATLAS used discriminant analysis to precisely describe the content for each item (Conti & Kolody, 1998).

Criterion-related validity establishes validity by comparing the scores on a particular instrument to external

criteria believed to be valid for the instrument (Gay, 1996). Criterion-related validity for ATLAS was established by making a comparison between scores on the ATLAS to actual group placement using SKILLS. The current version of ATLAS correctly places about 70% of the respondents in their corresponding SKILLS group (Conti & Kolody, 1999). A study using ATLAS with eBay participants reported that at least 90% of the respondents agree that ATLAS correctly identifies their learning strategies (Ghost Bear, 2001, p. 81).

"Reliability is the degree to which a test consistently measures whatever it measures" (Gay, 1996, pp. 144-145). Reliability is concerned with the dependability, trustworthiness, or consistency in measuring what it was designed to measure. No test is perfectly reliable because of inaccuracies of measurement, which have a variety of explanations. Causes for errors or inaccuracies could stem from the characteristics of the test itself, conditions of test administration, current status of the person taking the test, or a combination of these factors (Gay, 1996).

Current statistics indicates that "test-retest measures results are approximately 90% accurate for placing people in the same learning strategy preference category" (Willyard,

2000, pp. 88-89). In "test-retest examination covering periods of time from one-week to three-weeks, ATLAS has a reliability of .87" (Ghost Bear, 2001, p. 82). Additionally, the researchers have found that in a study of Internet users, over 90% of the time when respondents have taken the instrument, they report the ATLAS description correctly identifies them (Ghost Bear, 2001). This degree of accuracy has also been found in quantitative research (James, 2000; Lively, 2001; Turman, 2001; Willyard, 2000).

Procedures

Berklee College of Music

Permission was granted by the General and Music Education Departments at Berklee College of Music in Boston, Massachusetts, to conduct the research. Qualitative researches choose participants who have information, perspectives, and experiences related to the topic of research (Gay & Airasian, 2000, p. 139). A purposive sampling method was used. Thus, classes that were general in nature were selected to obtain a broad representation of students from the school. Of the Music Education classes, one Instrumental Methods and one Survey of Instrumental Literature class were selected. Of the General Education

classes, four Music, Health, and Wellness classes were selected. The classes were selected because frosh, sophomores, juniors, and seniors were all represented. Only Berklee College of Music students were included in this sample.

A meeting was held with each chair of the departments to determine the most convenient method to administer the surveys during class and discuss issues of anonymity and confidentiality. Many educators are uncomfortable about people doing research in their schools because of previous bad experiences, disruptions of classes, administering poorly constructed questionnaires, and finding problems in the school (Gay & Airasian, 2000, p. 101). The professors agreed to allow the beginning of each class period to administer the survey only if students had the choice to decline participation. "Informed consent focuses on ensuring that research participants enter the research of their free will and with understanding of the nature of the study and any possible obligations or dangers that may arise" (Gay & Airasian, 2000, p. 99).

A brief synopsis of the study and explicit guidelines were given to the students prior to administering the

survey. The students were given the opportunity to ask questions related to the study and decline participation. None of the students declined to participant in the study from any of the six classes. In succession, demographic information was completed first followed by ATLAS, the 16-question survey, and the LSI. Total estimated testing time was around 20 to 30 minutes.

There were 109 respondents who completed the survey. The respondents were asked to voluntarily supply their telephone numbers on the answer sheet if they were interested in participating in interviews. Of the respondents, 42 (85.7%) males and 7 (14.2%) females supplied their telephone numbers. The respondents for interviews were selected by their learning strategy group: 2 Navigators, 2 Problem Solvers, and 2 Engagers.

Stratified sampling is a procedure for ensuring that individuals in the population who have certain characteristics are represented in the sample (Borg, Gall, & Gall, 1993, p. 98). "A table of random numbers selects the sample for you, each member being selected on a purely random, or chance, basis" (Gay & Airasian, 2000, p. 124). The seven females were separated from the males, and a table

of random numbers was used to select one respondent (.142 x 6 = .852). This respondent was a Navigator. The table of random numbers was also used to select the 5 male respondents (.857 x 6 = 5.14). One Navigator, two Problem Solvers, and two Engagers were selected.

The volunteers were contacted the second week following the surveys. All of the Berklee College of Music selected volunteers were available for interviews. Each participant was asked general exploratory open-ended questions concerning their musical history and music learning processes. All participants revealed creative themes and concepts during their discussions. The interviews lasted around 45 minutes to 1 hour.

Naturally-trained Musicians

The Chief Executive Officer for the Oklahoma Jazz Hall of Fame in Tulsa, Oklahoma, was contacted to discuss the purpose and the assumptions of the study and to be considered as a participant. An interview was also requested. The Chief Executive Officer agreed to participate in the study and recommend other possible contacts. During the interview, the participant mentioned several other

musicians in Tulsa, Oklahoma, who would possibly be interested in participating in the study.

A brief outline of the study and specific instruction were given to the Naturally-trained musicians prior to administering ATLAS, the LSI, and the 16-question survey. Of the Naturally-trained musicians, 30 completed the 3 survey instruments. The musicians who were interested in being interviewed wrote their telephone numbers on the answer sheet. Twelve Naturally-trained musicians were also interviewed.

Of the respondents, 17 (94.4%) males and 1 (5.6%) female supplied their telephone numbers. The respondents for interviews were selected by their learning strategy group with four each for the Navigators, Problem Solvers, and Engagers. The one female respondent selected was an Engager. The table of random numbers was used to select the remaining 11 male respondents.

Exploratory open-ended questions were also used to investigate the participant's musical upbringing and music learning practices. The participants exposed vivid depictions of real-life experiences that interacted with

matured creativity themes during their discussions. The interviews lasted from 1 to 2 hours.

CHAPTER 4

QUANTITATIVE FINDINGS

Demographics

The 139 respondents in the sample were made up of two distinct groups that differed in demographic characteristics (see Table 1). The Berklee-trained group was larger than the Naturally-trained group and represented 78.26% of the sample. Since this group was over three and half times larger than the Naturally-trained group, it was necessary to look at both groups individually as well as the total group in order to get a complete profile of the sample.

Of the 139 respondents, slightly over two-thirds were males, and almost one-fourth were females. Of the Berklee-trained respondents, two-thirds were males, and one-fourth were females. These percentages were within Berklee's predicted gender norms of 75.4% males and 24.6% females (Berklee, 2004). Of the 139 respondents, slightly over two-thirds were males, and almost one-fourth were females. Of the Berklee-trained respondents, two-thirds were males, and one-fourth were females.

The Berklee-trained group was younger than the Naturally-trained group. While the overall group had an age

range of 19 to 55 and a median age of 22 with a mean of 25.03, the Berklee-trained group's median age was 22 and its mean age was 22.17. The Naturally-trained group's median age was 35, and the mean age was 35.43.

Table 1. Demographic Profile of Participants

| Variable | All | | Berklee | | Naturals | |
|------------------|------|------|---------|------|----------|------|
| | Freq | % | Freq | % | Freq | % |
| Gender | | | | | | |
| Male | 108 | 78.3 | 81 | 75.0 | 27 | 90.0 |
| Female | 30 | 21.7 | 27 | 25.0 | 3 | 10.0 |
| Age | | | | | | |
| 20-28 | 113 | 81.3 | 105 | 96.3 | 8 | 26.7 |
| 29-39 | 16 | 11.5 | 4 | 3.7 | 12 | 40.0 |
| 40-55 | 10 | 7.2 | 0 | 0.0 | 10 | 33.3 |
| Race | | | | | | |
| White | 78 | 58.2 | 75 | 72.1 | 3 | 90.0 |
| African American | 35 | 26.1 | 18 | 17.3 | 27 | 10.0 |
| Other | 18 | 13.4 | 8 | 7.7 | | |
| Hispanic | 3 | 2.2 | 3 | 2.9 | | |

Of the 139 respondents, slightly over half were white; one-fourth were African Americans; and Hispanics, Asians, and Others made up the remainder of the group. The Berklee-trained respondents were predominantly White (75%) with one-fourth of the sample African Americans, Hispanics, Asians,

and Others. The Naturally-trained respondents were predominantly African Americans (90%) with only one-tenth of the sample White.

Learning Styles Profile

The Learning Style Inventory (LSI) yields several measures. One measure is categorical and places the respondents in a learning style group. The four categories are Divergers, Assimilators, Convergers, and Accommodators. These categories represent various learning style groups which show how people perceive and process information.

For all respondents in this study, the Divergers were the largest group (see Table 2). The Assimilators and Accommodators were almost evenly distributed, and the Convergers were the smallest group. The distribution of the 109 Berklee-trained respondents mirrored that of the overall group with the Divergers as the largest group, the Accommodators and Assimilators almost evenly distributed, and the Convergers as the smallest group.

However, the 30 Naturally-trained respondents were distributed somewhat differently. While the Divergers were the largest group with a representation almost the same as for the Berklee-trained group, the Assimilator group was

much larger (33.3%) than for the Berklee-trained group (22.0%). While the Converger group was the smallest for both the Berklee-trained and Naturally-trained group, there were as many Accommodators as Convergers in the Naturally-trained group.

Table 2. Distribution of Learning Style Groups

| Learning Style | All | | Berklee | | Naturals | |
|----------------|------|-------|---------|-------|----------|-------|
| | Freq | % | Freq | % | Freq | % |
| Diverger | 57 | 41.0 | 45 | 41.3 | 12 | 40.0 |
| Assimilator | 34 | 24.5 | 24 | 22.0 | 10 | 33.3 |
| Accommodator | 31 | 22.3 | 27 | 24.8 | 4 | 13.3 |
| Convergers | 17 | 12.2 | 13 | 11.9 | 4 | 13.3 |
| Total | 139 | 100.0 | 109 | 100.0 | 30 | 100.0 |

Divergers

The Divergers were the majority learning style amongst the respondents in this study. The large number of Divergers in this group is constant with findings from other studies that associate arts and humanities with the concrete reflective domain. The Carnegie Commission study of American Colleges and Universities in 1969 revealed that those with a background in music, art, humanities, and dramatic arts were in the Diverger quadrant of the LSI. The results support

that widely shared view that cultural variation in academic fields is predominantly unidimensional, which divides the academic community into two camps: The scientific and the artistic (Kolb, 1984, p. 128).

Divergers are innovative learners with a great imagination (Kolb, 1984, p. 78). They like to be personally involved in the learning project and look for personal meaning in the process. Their perception of information is concrete, and their processing is reflective. This style is named Diverger because these learners look for alternative ideas through learning opportunities like brainstorming sessions. These learners learn best when seeing the connection between their experiences, interaction with others, and learning (p. 78). Normally, these learners ask why do I need to learn this.

Assimilators

The second largest group was Assimilators. Assimilators are analytical learners. They are interested in knowing the facts, gaining intellectual competence, and seeking expert opinions. Their perception of the information is abstract, and the processing is reflective (Kolb, 1984, p. 70). Assimilators learn best by thinking through ideas. They are

named Assimilators due to their tendency to use inductive reasoning. When they learn, these learners piece the ideas together to create theories based on observations. They are interested in facts than people. Normally, these learners ask what they need to learn.

Since the Assimilators are analytical, their incentive for learning often comes from knowing the purpose of completing a learning activity. Yet, they often have difficulty with completing activities in which they have to think quickly about information because they want to think things through before answering.

Accommodators

Accommodators made up nearly one-fourth of the Berklee-trained group but only about one-eighth of the Naturally-trained group. Accommodators are dynamic learners who learn best by discovery methods. They are risk takers who like to seek new opportunities and make changes easily. The reason why these learners are named Accommodators is due to their ability to easily adapt to changing immediate circumstances. Contrary to Assimilators who are analytical, they work well with other people and can make good decisions intuitively despite the absence of logical reasoning (Kolb, 1984, p.

78). They often disregard authority and like to ask the question of what if.

Convergers

The smallest group of the respondents was the Convergers. Convergers are common-sense learners who like to know practical and usable information and determine how things work. Their perception of information is abstract, and their learning takes place through active and practical testing theories. Convergers received this name because they are people "that seem to do best in situations like conventional intelligence tests where there is a single correct answer or solution to a question or a problem" (Kolb, 1984, p. 77). They learn kinesthetically by doing instead of watching.

Learning Style Demographic Differences

Learning styles were compared to the demographic variables. For these comparisons, the participants were grouped into the four learning style categories of Divergers, Assimilators, Accommodators, and Convergers. The statistical procedure of analysis of variance (ANOVA) and chi-square were used for these analyses. Analysis of variance is an inferential statistic used to determine

whether the means of two or groups are significantly different from one another (Gay & Airasian, 2000, p. 328). ANOVA was used with age because it is a continuous variable. There was no significant difference between age and learning styles for all three groups: Overall group ($F = .58$, $df = 3/135$, $p = .63$), Berklee-trained group ($F = .91$, $df = 3/105$, $p = .44$, and Naturally-trained group ($F = .64$, $df = 3/26$, $p = .60$).

For the demographical variables of race and gender that grouped into categories, chi-square was used. Chi square is a test of significance appropriate when the data is in the form of frequencies. It "compares the proportions expected, to see if they are significantly different" (Gay & Airasian, 2000, p. 502.) The chi-square test is referred to as a goodness-of-fit test because it "compares the set of observed sample proportions with the corresponding set of population proportions" (Huck & Cormier, 1996, p. 519). Chi-square is used to compare group frequencies to see if an event occurs more frequently in one group than another (Gay & Airasian, 2000, p. 356).

For the analysis of race, the participants were placed into two groups because several groups were small. The

groups consisted of 78 Whites and 56 Non-Whites. For the Overall group ($\chi^2 = 5.11$, $df = 3$, $p = .16$) and for the Naturally-trained group ($\chi^2 = 1.48$, $df = 3$, $p = .69$), there were no differences between race and learning style. However, for the Berklee-trained group ($\chi^2 = 8.35$, $df = 3$, $p = .04$), there was a significant difference with Divergers making up 65.5% of the Non-White group but only 34.7% of the White Group.

When the overall group of 138 was divided between the Berklee-trained group ($\chi^2 = 6.92$, $df = 3$, $p = .075$) and the Naturally-trained group ($\chi^2 = 1.48$, $df = 3$, $p = .687$), there were no differences related to gender. However, when the groups were combined there was a significant difference related to gender for the total group. There were more female Divergers at the cost of the Assimilators for the overall group, ($\chi^2 = 7.86$, $df = 3$, $p = .049$).

Learning Style Inventory Continuous Scores

The Learning Style Inventory is based on Kolb's experiential learning theory which divides learning into four domains. This theory is depicted on a graph with the horizontal axis representing how people process information and a vertical axis representing how people perceive

information (Kolb, 1974, p. 92). The horizontal axis is made up of Active Experimentation (AE) and Reflective Observation (RO), and the vertical axis is made up of Concrete Experience (CE) and Abstract Conceptualization (AC). With this approach, scores are produced in addition to the categorical groups for learning styles. Learners with high scores on Concrete Experience (CE) prefer learning situations which enable them to immerse themselves in new experiences. Learners scoring high on the Reflective Observation (RO) prefer to be given opportunities to reflect on new information. Individuals with high scores on Abstract Conceptualization (AC) prefer learning situations which permit them to integrate new information with existing theories. These learners use theory to solve problems and make decisions. Those scoring high on Active Experimentation (AE) embrace a very practical approach to learning and desire to see what works. These learners will experiment, influence, and change situations.

Scores on the Learning Style Inventory has a range from 12 to 48. The means for each of the modes were as follows: 29.43 for Concrete Experience (CE), 30.0 for Abstract Conceptualization (AC), 29.25 for Reflective Observation

(RO), and 31.32 for Active Experimentation (AE) (see Table 3).

Table 3. Distribution of Learning Style Continuous Scores

| Range | Frequency | Percent |
|-------|-----------|---------|
| CE | | |
| 12-22 | 21 | 15.1 |
| 23-30 | 61 | 43.9 |
| 31-39 | 41 | 29.5 |
| 40-48 | 16 | 11.5 |
| RO | | |
| 15-22 | 33 | 23.9 |
| 23-30 | 52 | 37.7 |
| 31-38 | 34 | 24.6 |
| 39-47 | 19 | 13.8 |
| AC | | |
| 15-24 | 34 | 24.6 |
| 25-31 | 52 | 37.7 |
| 32-37 | 28 | 20.3 |
| 38-46 | 24 | 17.4 |
| AE | | |
| 19-26 | 35 | 25.4 |
| 27-32 | 50 | 36.2 |
| 33-40 | 41 | 29.7 |
| 41-47 | 12 | 8.7 |

Learning Style Composite Scores

Two composite scores are also produced from the Learning Style Inventory results. These are constructed by combining the Abstract Conceptualization and the Concrete Experience (ACCE) scores and the Active Experimentation and Reflective Observation (AERO) scores. Kolb (1984) defines two primary dimensions to the learning process that are polar opposites. The first dimension, perceiving information, represents the Concrete Experiencing of events at one end and the Abstract Conceptualization at the other. The other dimension, processing information, has Active Experimentation at one extreme and Reflective Observation at the other. Thus, in the process of learning, one moves in changeable stages from actor to observer and from specific involvement to general analytic detachment (pp. 30-31). These scores show the two different ways by which one learns. The perception learning scale and the processing learning scale are combined on a grid. The intersection of these scores places a person in one of the four quadrants of the grid, and each of these represents one of the four learning styles.

Abstract Conceptualization-Concrete Experience (ACCE) scores can range from -36 to +36 on the Learning Style

Inventory grid. On the norm for the LSI, the midpoint for the scale is near 4. In this study, the ACCE mean for all respondents was 1.36, and the ACCE scores ranged from -26 to +31 with more than half of the scores closer to the Concrete Experience end of the grid. Thus, the majority of the learners with composite scores on the ACCE perception learning scale prefer learning situations which enable them to immerse themselves in new experiences. Their perceptions in the learning process are based more on feeling than thinking. The ACCE individual scores for the Berklee-trained respondents were similar to those of the total group with more than two-thirds scoring in the -26 to +4 range and the remaining one-third scoring in the 5 to 31 range. The Naturally-trained respondent's ACCE scores were different. Approximately half of the respondents scored in the -26 to +4 range and a little under one-half scored in the 5 to 31 range.

The range on the Active Experimentation-Reflective Observation (AERO) scale can be from -36 to +36. The midpoint for the norm group for the scale is between 5 and 6. In this study, the AERO mean was 2.08 which is on the Reflective Observation side of the scale. The AERO scores

for the overall group of respondents ranged from -26 to +31. This indicates that most of the respondents in this study prefer to process new information by watching instead of doing. The AERO individual scores for the Berklee-trained respondents were similar to the overall group with over one-half scoring in the -26 to +5 range and a little over one-third scoring in the 6 to 33 range. The Naturally-trained respondents AERO scores were similar with almost three-fourths of the respondents scoring in the -26 to +5 range and slightly over one-fourth scoring in the 5 to 31 range (see Table 4).

Table 4. Distribution of ACCE and AERO Scores by Groups

| LSI | All | | Berklee | | Naturals | |
|----------|------|-------|---------|-------|----------|-------|
| | ACCE | Freq | % | Freq | % | Freq |
| -26 to 4 | 88 | 63.3 | 72 | 66.1 | 16 | 53.3 |
| 5 to 31 | 51 | 36.7 | 37 | 33.9 | 14 | 46.7 |
| Total | 139 | 100.0 | 109 | 100.0 | 30 | 100.0 |

| LSI | All | | Berklee | | Naturals | |
|----------|------|-------|---------|-------|----------|-------|
| | AERO | Freq | % | Freq | % | Freq |
| -26 to 5 | 89 | 64.0 | 68 | 62.4 | 21 | 70.0 |
| 6 to 33 | 50 | 36.0 | 41 | 37.6 | 9 | 30.0 |
| Total | 139 | 100.0 | 109 | 100.0 | 30 | 100.0 |

Learning Strategies Profile

The three learning strategy preference groups identified by Assessing The Learning Strategies of Adults (ATLAS) are Navigators, Problem Solvers, and Engagers. Respondents are placed into one of the three groupings based on their responses. In the general population, the learning strategy preference groups are distributed somewhat equally (Conti & Kolody, 1999, p. 18).

For the 130 respondents who completed ATLAS (see Table 5), the Engagers were the largest group. The Navigators and Problem Solvers were almost evenly distributed. The distribution of the 102 Berklee-trained respondents almost mirrored that of the overall group with the Engagers as the largest group and the Navigators and Problem Solvers both evenly distributed. However, the 28 Naturally-trained respondents were distributed differently. The Navigators, Problem Solvers, and Engagers were almost evenly distributed.

The participants agreed that ATLAS accurately identified their learning strategy preference. Of all respondents, 88.8% reported that ATLAS accuracy described their learning strategy. The rate was higher for Naturally-

trained group (100%) than for the Berklee-trained group (85.7%). This findings of ATLAS accuracy is consistent with other findings for ATLAS (Ghost Bear, 2001; James, 2000; Willyard, 2000).

Table 5. Distribution of Learning Strategy Profile Groups

| ATLAS | All | | Berklee | | Naturals | |
|----------------|------|-------|---------|-------|----------|-------|
| | Freq | % | Freq | % | Freq | % |
| Engager | 55 | 42.3 | 46 | 45.1 | 9 | 32.1 |
| Navigator | 38 | 29.2 | 28 | 27.5 | 10 | 35.7 |
| Problem Solver | 37 | 28.5 | 28 | 27.5 | 9 | 32.1 |
| Total | 130 | 100.0 | 102 | 100.0 | 28 | 100.0 |

Engagers

Slightly under one-half of the participants were Engagers. Engagers are "passionate learners who love to learn" (Conti & Kolody, 1999, p. 13). "Engagers like to interact with others and enjoy collaborative environments" (p. 13). These learners see the learning process as a pleasurable experience and are motivated to learn out of the affective domain. The affective domain is a feeling or emotion as distinguished from cognition, thought, or action. Engagers judge the value of a learning activity through their feelings. These learners employ the use of

Metamotivation strategies such as Reward/Enjoyment and Confidence and Memory strategies such as Use of External Aids and Memory Application.

Metamotivation is "the awareness of and control over factors that energize and direct one's learning" (Conti & Kolody, 1999, p. 4). Engagers are greatly motivated to learn by Reward or Enjoyment which consists of experiencing satisfaction and having fun while learning. Engagers like to learn by having fun while sharing their ideas with others which brings about different perspectives into the learning opportunities (Conti & Kolody, 2004, p. 187).

Confidence is another important learning strategy for Engagers. For example, if the learners decide to do a learning task, then they are confident that they can do it. This is related to confidence in general of having self-assurance that a task can be completed when started. Those who have confidence often have better results than those who do not.

Memory strategies are also important in the learning process for Engagers. Memory is viewed in its relationship to adult learning and the influence it can have on decision making and consequent human behavior" (Paul & Fellenz, 1993,

p. 24). In addition, when the material is meaningful to the student, then there is more attention given to the learning, and it is retained longer in memory. In order to remember material, Engagers frequently use external aides.

Navigators

There was slightly over one-fourth Navigators in this study. Navigators are "focused learners who chart a course for learning and follow it" (Conti & Kolody, 1999, p. 9). They are high achievers who are driven by results and who like to plan and organize their learning activities. The primary learning strategies of Navigators include planning and monitoring the learning task and identification and critical use of resources.

Planning involves identifying the purpose of the learning activity and determining the sequence steps necessary in order to complete a learning task. These individuals base their planning on given schedules and time. They like to know what is expected of them in the learning process up front so that they can organize their work in order to gain the best results (Conti & Kolody, 2004, p. 185).

Problem Solvers

There was also slightly over one-fourth Problem Solvers in this study. Problem Solvers are learners who utilize critical thinking skills. They like to "test assumptions, generate alternatives, use external aids, and identify many resources to use" (Conti & Kolody, 2004, p. 186). They do well on tests with open-ended questions versus tests with multiple-choice items. These learners tend to think in terms of how something works and are detail oriented in their understanding and explanations of ideas. They are often storytellers (Ghost Bear, 2001, p. 383).

Resource Management is important to Problem Solvers. This involves identifying and managing materials needed for the learning process according to preference and need. Resources include books, newspapers, and television or radio clips, and they may be located at the local library or on the Internet. Finding resources help Problem Solvers develop solutions to problems found in everyday life, and this is what Problem Solvers enjoy doing.

Learning Strategy Comparisons

A chi-square analysis was calculated to determine if there was a significant difference between the observed frequency distribution of the respondents preferred learning

strategy frequency distribution based on the norms of ATLAS. The expected distribution of ATLAS learning strategy preference groups is as follows: Navigator 36.5%, Problem Solver 31.7%, and Engagers 31.8% (Conti & Kolody, 1999, p. 18).

When the overall group was compared to the norms of ATLAS, the observed distribution for all respondents was significantly different from the expected distribution ($\chi^2 = 6.83$, $df = 2$, $p = .03$). Navigators were under-represented by 20%. Problem Solvers were under-represented by 10.2%. Engagers were over-represented by 33.2%. However, because of the differences in the size of the groups, each group was also compared separately to the norms of ATLAS. When the groups were compared to the norms for ATLAS separately, different results were found. Like the overall group of which it made up over three-fourths, the observed distribution for the Berklee-trained respondents was also significantly different from the expected distribution ($\chi^2 = 8.54$, $df = 2$, $p = .01$). Navigators were under-represented by 24.7%. Problem Solvers were under-represented by 13%. Engagers were over-represented by 42%. However, the Naturally-trained respondent's groups were not different

from the expected distribution ($\chi^2 = .008$, $df = 2$, $p = .99$) (see Table 6).

Table 6. Observed and Expected Distribution of Learning Strategy Groups

| ATLAS | All | | | Berklee | | | Naturals | | |
|-----------|-----|------|------|---------|------|------|----------|------|------|
| | Obs | Exp | Diff | Obs | Exp | Diff | Obs | Exp | Diff |
| Navigator | 38 | 47.5 | -9.5 | 28 | 37.2 | -9.2 | 10 | 10.2 | -.2 |
| Prob Sol | 37 | 41.2 | -4.2 | 28 | 32.3 | -4.2 | 9 | 8.9 | .1 |
| Engager | 55 | 41.3 | 13.7 | 46 | 32.4 | 13.6 | 9 | 8.9 | .1 |

The learning strategy preferences of ATLAS were compared to the demographic variables of age, race, and gender. Analysis of variance was used for age. There were no significant differences between learning strategy groups and age ($F = 1.06$, $df = 2/129$, $p = .348$). Chi-square was used to determine if differences existed between learning strategy groups and the demographic variables of gender and race. There were no significant differences between learning strategy groups and race ($\chi^2 = 2.99$, $df = 6$, $p = .81$). There were also no significant differences between learning strategy groups and gender ($\chi^2 = 4.96$, $df = 2$, $p = .08$).

Learning Styles and Strategies Relationships

The results from the Learning Style Inventory (LSI) and Assessing The Learning Strategies of Adults (ATLAS) were

examined to determine the relationship between learning styles and learning strategies. Both instruments place participants into categories. Therefore, chi-square was used with the nominal data to examine the relationship of the groups. Since the LSI also produces two scales in addition to the categorical placement of respondents, analysis of variance was also used for analysis of the continuous data.

Group Placement

ATLAS places respondents into one of three groups while the LSI places them in one of four groups. There was a significant differences between ATLAS and the LSI group placement for the overall group ($\chi^2 = 19.7$, $df = 6$, $p = .003$) (see Table 7). There was also a significant difference between ATLAS and the LSI for the Berklee-trained group ($\chi^2 = 17.1$, $df = 6$, $p = .009$). The analysis illustrates (a) that Engagers are not likely to be Assimilators and (b) that the Navigators and Problem Solvers are more likely to be Assimilators. Cognition can be defined as the act or process of knowing including both awareness and judgment (Merriam-Webster, 2000). The Navigators and Problem Solvers share the cognitive domain when approaching a learning task and the Engagers approach learning from the affective domain (Conti

& Kolody, 1999, p. 18). The Engagers were associated with the Accommodators. There was no significant difference for the Naturally-trained respondents ($\chi^2 = 9.1$, $df = 6$, $p = .169$).

Table 7. Distribution by Learning Style and Learning Strategy Preferences

| Groups | Navigator | | Prob Solver | | Engager | |
|--------------|-----------|--------|-------------|--------|---------|--------|
| | Observe | Expect | Observe | Expect | Observe | Expect |
| All | | | | | | |
| Converger | 6 | 4.7 | 3 | 4.6 | 6.8 | 4 |
| Assimilator | 14 | 9.4 | 14 | 9.1 | 4 | 13.5 |
| Diverger | 12 | 15.8 | 16 | 15.4 | 26 | 22.8 |
| Accommodator | 6 | 8.2 | 4 | 8.0 | 18 | 11.8 |
| Total | 38 | | 37 | | 55 | |
| Berklee | | | | | | |
| Converger | 5 | 3.3 | 1 | 3.3 | 6 | 5.4 |
| Assimilator | 10 | 6.3 | 10 | 6.3 | 3 | 10.4 |
| Diverger | 7 | 11.5 | 13 | 11.5 | 22 | 18.9 |
| Accommodator | 6 | 6.9 | 4 | 6.9 | 15 | 11.3 |
| Total | 28 | | 28 | | 46 | |
| Naturals | | | | | | |
| Converger | 1 | 1.4 | 2 | 1.3 | 1 | 1.3 |
| Assimilator | 4 | 3.2 | 4 | 2.9 | 1 | 2.9 |
| Diverger | 5 | 4.3 | 3 | 3.9 | 4 | 3.9 |
| Accommodator | 0 | 1.1 | 0 | 1.0 | 3 | 1.0 |

| | | | | | | |
|-------|----|--|---|--|---|--|
| Total | 10 | | 9 | | 9 | |
|-------|----|--|---|--|---|--|

Continuous Measures

Further analysis was conducted to test the relationship between learning styles and learning strategies. For this analysis, the participants were grouped according to their learning strategy preference of either Navigators, Problem Solvers, or Engagers. Two separate analyses of variances were conducted. The first analysis with the AERO explored the relationship between learning strategies and processing information. The second analysis with the ACCE investigated the relationship between learning strategies and perceiving information. There was no significant difference between the scores for the AERO. However, there was a significant difference between the three ATLAS groups and the ACCE scores (see Table 8).

Table 8. ANOVA for AERO By Learning Strategy

| Processing Information (AERO) | | | | | |
|-------------------------------|----------|-----|--------|------|------|
| Group | SS | df | MS | F | P |
| All | | | | | |
| Between | 742.70 | 2 | 371.35 | 2.60 | .078 |
| Within | 18083.67 | 127 | 142.39 | | |
| Berklee | | | | | |

| | | | | | |
|-------------------------------|----------|-----|---------|-------|------|
| Between | 670.584 | 2 | 335.29 | 2.390 | .097 |
| Within | 13888.28 | 99 | 140.28 | | |
| Naturals | | | | | |
| Between | 499.42 | 2 | 249.71 | 1.71 | .201 |
| Within | 3645.28 | 25 | 145.81 | | |
| Perceiving Information (ACCE) | | | | | |
| All | | | | | |
| Between | 3210.92 | 2 | 1605.46 | 10.47 | .001 |
| Within | 19465.85 | 127 | 153.27 | | |
| Berklee | | | | | |
| Between | 2338.88 | 2 | 1169.44 | 7.06 | .001 |
| Within | 16392.69 | 99 | 165.58 | | |
| Naturals | | | | | |
| Between | 925.77 | 2 | 462.88 | 3.91 | .033 |
| Within | 2956.22 | 25 | 118.249 | | |

In ANOVA, the F ratio only describes if there is at least one significant difference somewhere among the means. In order to find out where the difference is, a post hoc test must be used. Therefore, to find the differences among the groups on the ACCE, the Scheffé test was used. "The Scheffé test involves calculation of an F ratio for each mean comparison of interest" (Gay & Airasian, 2000, p. 497). On the Scheffé test for the total group, the Navigators (4.1) and the Problem Solvers (5.7) formed one group while

the Engagers (-5.1) formed another. Likewise, for the Berklee-trained group, the Navigators (4.5) and Problem Solvers (4.8) were in one group while the Engagers (-5.0) were in another. However, there were no significant differences for the Naturally-trained group.

Navigators and Problem Solvers are different from the Engagers in how they initiate the learning activity (Conti & Kolody, 1999). The Navigators and Problem Solvers initiate the learning activity from the cognitive or thinking domain, and the Engagers initiate the learning activity from the affective or feeling domain. The ACCE mean scores for the Navigators and Problem Solvers place them on the "thinking" side of the scale while the mean score for the Engagers place them on the "feeling" side of the scale. Thus, responses for how a person perceives information and how one initiates a learning activity are similar.

Creativity Profile

Creativity is rare, difficult to study, and hard to quantify. The creativity literature suggests that there are at least four components of creativity: (a) the creative process, (b) the creative product, (c) the creative person, and (d) the creative situation. The participants revealed

data to support each component of the creative process.

Creativity has been studied from many incompatible theoretical perspectives, each with its own assumptions, methodologies, biases, and even meta-theoretical views (MacKinnon, 1970; Mooney, 1963).

A review of the literature defined several creativity constructs that creative people utilize and possess during the creative act. The creativity constructs were condensed into 16 themes and used to create a survey that measured creativity for musicians. The creativity constructs used were: clear-cut goals, concentration, control, curiosity, the decision to pursue the creative act, flexibility, fluency, incubation, instant feedback, lost of time, love and enjoyment, motivation, originality, problem solving, satisfaction, and talent. The four creative constructs of process, product, person, and situation along with the three style-groups of cognitive-based, personality-based, and activity-based described in the creativity literature were represented in the survey. The survey consisted of 16 multiple-choice items with 3 options. One option was consistent with the literature while the other two options were not. Therefore, an overall creativity score, which

consisted of the number of right answers to each item on the creativity survey, was created. The respondents were distributed on a fairly normal shaped curve from a low score of 4 to a high score of 15 (see Table 9).

Table 9. Distribution of Creativity Scores

| Score | Frequency | Percent |
|-------|-----------|---------|
| 4.00 | 1 | .7 |
| 5.00 | 1 | .7 |
| 6.00 | 4 | 3.0 |
| 7.00 | 8 | 5.9 |
| 8.00 | 13 | 9.6 |
| 9.00 | 13 | 9.6 |
| 10.00 | 28 | 20.7 |
| 11.00 | 16 | 11.9 |
| 12.00 | 23 | 17.0 |
| 13.00 | 13 | 9.6 |
| 14.00 | 12 | 8.9 |
| 15.00 | 3 | 2.2 |
| Total | 135 | 100.0 |

The creativity scores were compared to gender, age, and race to determine if relationships existed. For the total group, there was no significant difference in creativity due to gender ($F = .001$, $df = 1/133$, $p = .97$). For race the participants were grouped as White and Non-white, and no

significant differences were found ($F = 2.09$, $df = 1/129$, $p = .15$). No analysis was run for creativity and age because no meaningful age groups could be formed.

Table 10. ANOVA of Creativity Score and Grouping of Berklee and Naturally-Trained

| CREATIVITY | SS | df | MS | F | p |
|------------|---------|-----|--------|--------|------|
| Between | 57.363 | 1 | 57.363 | 11.629 | .001 |
| Within | 656.74 | 133 | 4.933 | | |
| Total | 713.437 | 134 | | | |

The degree of creativity between the Berklee and Naturally-trained groups were compared by using the creativity scores. The participants were placed in these two groups to see if differences of creativity existed. There was a significant difference in levels of creativity between the Berklee and Naturally-trained respondents (see Table 10). The mean score for the Berklee-trained respondents was 10.22 with a standard deviation of 2.30. The Naturally-trained respondent's score was higher with a mean score of 11.85 with a standard deviation of 1.88.

Creativity and Learning Strategies Relationships

The relationship between learning strategies and creativity was examined. Analysis of variance was used to examine the relationship of the learning strategy preference

groups and the creativity score. There were no significant differences between the learning strategy preference groups base on creativity scores ($F = .132$, $df = 2/124$, $p = .877$). The overall mean score for Navigators was 10.43 with a standard deviation of 2.26. The mean score for Problem Solvers was 10.68 with a standard deviation of 2.34. The mean score for Engagers was 10.45 with a standard deviation of 2.43. Hence, an individual's level of creativity has no significant relationship to one's learning strategy group; one learning strategy group is no more creative than the others.

Creativity and Learning Style Grouping

There were no significant differences between the overall group and creativity scores ($F = .586$, $df = 3/131$, $p = .626$). The overall mean score for Convergers was 11.05 with a standard deviation of 2.05. The mean score for Assimilators was 10.75 with a standard deviation of 2.50. The mean score for Divergers was 10.45 with a standard deviation of 2.37. The mean score for Accommodators was 10.22 with a standard deviation of 2.15.

There also were no significant differences for the Berklee-trained group and creativity scores ($F = .244$, $df =$

$3/104$, $p = .865$). The mean score for Convergers was 10.62 with a standard deviation of 1.98. The mean score for Assimilators was 10.39 with a standard deviation of 2.50. The mean score for Divergers was 10.13 with a standard deviation of 2.43. The mean score for Accommodators was 10.03 with a standard deviation of 2.97.

The Naturally-trained group was consistent with the other groups with no significant differences between creativity scores ($F = .216$, $df = 3/23$, $p = .884$). The mean score for Convergers was 12.5 with a standard deviation of 1.73. The mean score for Assimilators was 11.66 with a standard deviation of 2.40. The mean score for Divergers was 11.90 with a standard deviation of 1.37. The mean score for Accommodators was 11.50 with a standard deviation of 2.38. Thus, an individual's level of creativity has no significant relationship to one's learning style group; one learning style group is no more creative than the others.

Groups and Creativity

Cluster analysis was used to explore for groups amongst the musicians based on the interaction of learning style, demographic variables, and creativity level. Cluster analysis is an exploratory data analysis tool for solving

classification problems. Its object is to sort cases into groups, or clusters, so that the degree of association is strong between members of the same cluster and weak between members of different clusters. Cluster analysis may reveal associations and structure in data which, though not previously evident, nevertheless are sensible and useful once found (Clustan, 1989). This multivariate statistical method is potentially a powerful tool for examining information from studies which ask research questions from the sociological perspective (Conti, 1996, p. 68).

In order to find the differences among the groups produced by the cluster analysis, discriminant analysis was used to describe the process that separated the various clusters into distinct groups. Although it is not statistically appropriate as a means of validating the cluster (Aldenderfer & Blashfield, 1984, pp. 64-65), discriminant analysis is a useful instrument for distinguishing the process that separates and help describe the clusters (Conti, 1996, p. 71). In these analyses, the continuous learning style scores of ACCE and AERO were used. Because learning strategy preferences were categorical and

showed no relationships in the multivariate analysis, they were not included in the cluster analysis.

The respondents divided into the four clusters. The 134 participants in the analysis were clustered into groups of 46, 34, 27, and 27. Three separate discriminant analyses were conducted to identify the process that separated the groups. At the 2-cluster level, the group of 73 consisted of the group of 46 and one of the groups of 27. The group of 61 consisted of the group of 34 and one of the groups of 27. The discriminant analysis that separated the group of 73 from the group of 61 was 98.5% accurate in discriminating between these two groups. The structure matrix revealed that the prime item separating the groups was the ACCE score on how they perceived information in a learning activity. The group of 73 relied heavily on feeling while the group of 61 relied strongly on thinking.

The group of 73 was made up of two groups. One group contained 46 while the other had 27. The discriminant analysis which explored the differences between these two groups was 95.9% accurate in discriminating between the groups. The structure matrix revealed that the differences between the groups were attributed to the AERO and ACCE

scores. The groups differed in the extremes of feeling about the learning task and in how they process information in the learning task. The group of 27 was more extreme in its feeling and processed information by doing. The larger group of 46 was moderate in its feeling and processed information by watching.

The group of 61 was made up of two groups. One group contained 34 while the other had 27. The discriminant analysis which explored the differences between these two groups was 95.1% accurate in discriminating between the groups. The structure matrix revealed that the differences between the groups were attributed to the AERO scores. The groups differed in the extremes of feeling about the learning task and in how they process information in the learning task. The group of 27 was more extreme in its thinking and processed information by watching. The larger group of 34 was moderate in its feeling and processed information by doing.

The abstract variables used to form the four groups can be used to name them. Since musicians were used to form the groups, the four groups have tentatively been named after

well-known musicians. The groups that they represent can be depicted on a flow chart (see Figure 1).

Extreme Passionate Feeling and Doing

The group of 27 that perceived information by feeling and that was most passionate can be represented by Elvis Presley. Elvis Presley was a compassionate performer who could not wait to get on stage but was less compassionate about song writing. James Burton, a longtime guitarist for Elvis, remembers that when performing with Elvis, there was no time off and working from 8 in the morning to 4 in the afternoon was common practice for the band. Burton also recalls that Elvis would frequently call songwriters a day before a performance to request new songs and arrangements (Beagley, 2003). Elvis is reported to have said, "I don't know anything about music. In my line you don't have to." For Elvis everything was in the performance.

For this group, music is a passion, and its value is in the performance. Many musicians study traditional music to later discover that traditional music study is categorized as "work". The consummate music performer does not adjust well to anything that takes the performance away from the music. Unfortunately, the passion of performance and the fun

of doing it can be lost when music is studied traditionally.

For example, one member of the group said:

If it [music] becomes work, then you're no longer having fun with it. I know I don't like learning it [music] anymore because it just feels like you just learning it for a grade. You're not learning it for yourself, and it may be something that you're never going to use. If it's something you can decide that you'll going to learn, then I think that's different. Berklee has a high drop out rate, and I think that a lot of it is the students ask: "Am I having fun"? Because it's just too much work in music, and it's no longer what I want to do. (20-year old, White male, Berklee-trained, Engager, Accommodator)

Moderate Feeling and Watching

The group of 46 that perceived information with feeling but that is moderate in watching can be represented by Willie Nelson. Outside the recording studio, Willie Nelson established himself as a champion for the family farmer with his annual Farm Aid concerts. His Fourth of July Picnics have for the past quarter-century served as a rite of musical passage in Texas. His films include The Electric Horseman with Robert Redford and Jane Fonda, Songwriter with Kris Kristofferson, and Wag the Dog with Robert DeNiro and Dustin Hoffman. In 1985, Farm Aid was born from the passion and commitment of Willie Nelson and a group of musical artists who wanted to give something back to the rural

communities that raised them (Farm Aid, 2004). Willie Nelson would be an example of the musician who is less compassionate with glittering performances but uses head-and-heart music as a tool for other projects.

Many musicians begin music careers with the main emphasis centered on performance, but they later decide that the glitter and stardom of performance are not realistic or desired. Some musicians prefer the back-seat to the glitter of performance but make their mark by learning the business of entertainment and using music as a vehicle to get there.

Music is my springboard for a lot of things I want to do but this is like my life. I just love music. At first I thought I was in it for the money. We kind of look at the fame side of it so we want to be famous. I want to be out there, and I want to be seen. But that's not really my thing. I really don't want to be seen. I'm kind of a behind the scenes kind of a person, so I don't have to necessarily have to be seen. Some times the money looks good, but there's so many different areas in music when you're dealing with music whether it's the industry or whether it's education having a music degree. There's a lot of different levels of music, but I just love music... So I really don't need pats on the back from other people because I appreciate this art form of music, and I appreciate what I do. I love this and this is what I like to do. (33-year old, African-American male, Naturally-trained, Navigator, Diverger).

Extreme Intensive Thinking and Watching

The group of 27 that perceived information by thinking and was the most intense can be represented by Johann Sebastian Bach. Bach said, "I have had to work hard: Anyone who works just as hard will get just as far" (Jon Mattox, 2004). Compassionate intensity describes the enormous endless creative works of Johann Sebastian Bach. Bach's works demonstrate a high level of intellectual and emotional commitment. By choice, Bach's intensity and passion for creative composition overshadowed his talent as a vocalist. Bach wrote and composed legendary music that is still appreciated today for its same passion and intensity.

Performers practice until the music becomes one with the musician. The performer automatically knows the next note, the next move, or the next step without the effort of thinking. Certain areas of music demand high levels of concentrated immersion and incubation when creating the musical activity. The arrangement, chord progressions, and the melodies are automatic, but creatively evaluating and elaborating the musical activity takes intense concentrated thinking. This intense concentrated passion and drive are part of the creative path to internal fulfillment, satisfaction, and reward. Performance is secondary.

A lot of times when I get a [musical] piece, I hear it just like it should be. I hear all the orchestration. I hear inflections and usually that is the base that is my foundation. And as I go along in developing the song putting it on tape, listening to it, rehearsing it, going back over it, I tweak it. It's just like a writer. When a writer is writing a novel, he has an initial idea about what this novel is going to be like. He already has seen the ending, but as he's writing he gets more information, he gets more ideas, more about what the storyline, which way it should go as he's writing. As so there's one draft, two drafts, three draft, and then there's the final draft. (44-year old, African-American female, Naturally-trained Engager, Assimilator)

Moderate Thinking and Doing

The group of 34 that perceived information with thinking but that was moderate in doing can be represented by Bob Dylan. Bob Dylan felt that, "I have no message for anyone my songs are only me talking to myself" (Billany, 1964, p. 1). Bob Dylan was the folk singer whose poetic songs carried a plea for freedom. Dylan described himself as a wondering troubadour linking the poetry of his songs with times of disillusionment (p. 1). Dylan had the power to make an audience listen and reflect on lyrics with a purpose with song writing that marked the emergence of the most distinctive and poetic voice in the history of American popular music (Vindia, 2004). Bob Dylan's meaningful lyrics

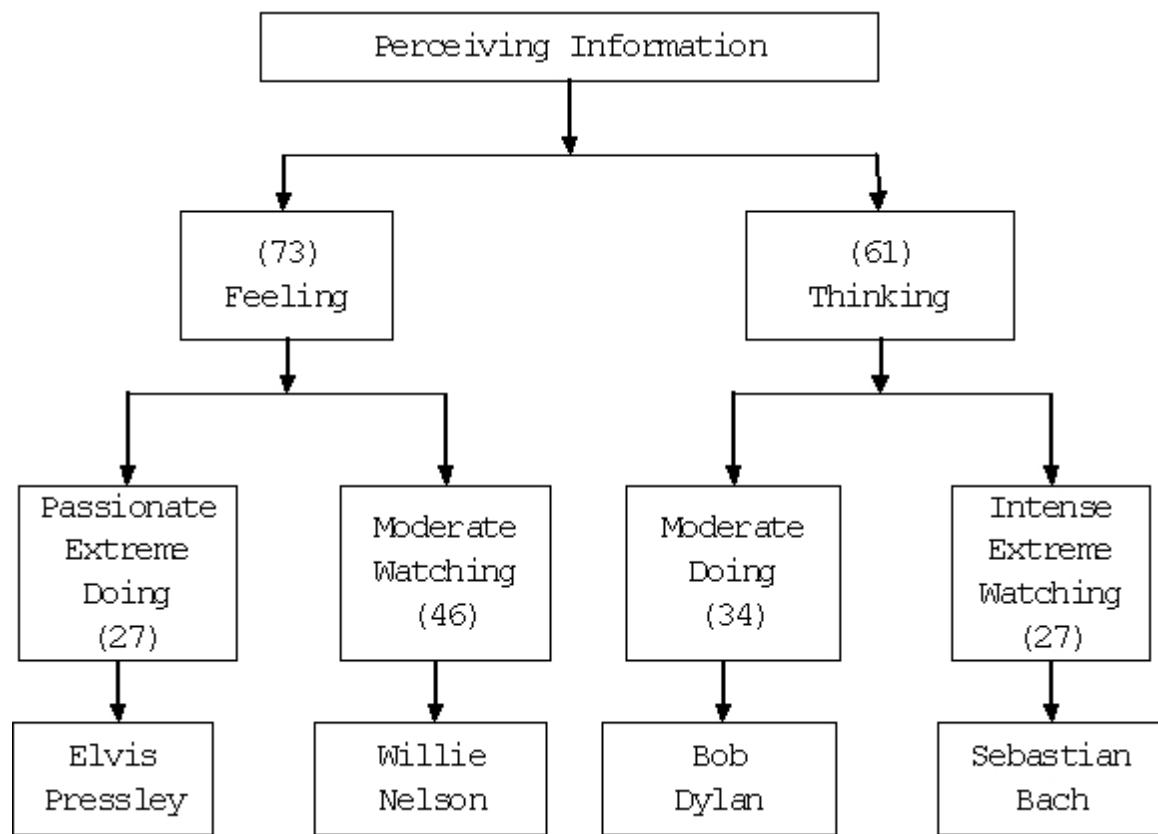
contributed to the people's struggle against the system. The album "Hurricane," was dedicated to the wrongly imprisoned boxer Rubin "Hurricane" Carter. Dylan was first officially nominated for the Nobel Prize in Literature 1997 and again five consecutive years.

Few musicians make the commitment to sacrifice fame for the sake of meaningful and reflective creative music. These musicians care less for the hype and business of music but produce the art of music for internal meaning and purpose. The works of these musicians are viewed as something of worth and value. They use music as an instrument to educate the listener to higher levels of reflection concerning real issues with real people.

What's mainly going through my head is thinking about the day I get that opportunity also [to make it in the music business]. It's almost like an unchained fire. A fire in my heart, and it's there. A great example would be if I hear a song about somebody's life, and they're talking about themselves and what they went through. I have a big heart for that. I think I'm one of the most unusual artists there are because I don't look for the fame. Most rock stars and R+B [Rhythm and Blues] stars they want to get out [in the music business] there because they really want to be known and have the money. I hope that happens, but I really don't care if it doesn't because I have other choices in my life... But I'll never stop singing and creating in the studio. (22-year old,

African-American male, Naturally-trained, Engager,
Converger)

Figure 1. Flow Chart of ACCE Processes



CHAPTER 5

QUALITATIVE RESEARCH RESULTS

Foundations of Creative Learning

A review of the creativity literature suggests the direct bearing of environmental factors to the development and growth of creative potentials. Much has been written empirically as well as theoretically with regard to the role of various environments that are conducive to creative activities. "Creativity is in the personality, the process, and the product within a domain in interaction with genetic influences and with optimal environmental influences of home, school, community and culture, gender, and chance" (Piirto, 1998, p. 41). The following will examine the common underlining adult education and creativity themes of both Naturally-trained and Berklee College of Music musicians. "The primary focus in qualitative research is on identifying participants who can provide information about the particular topic and setting being studied, not participants who necessarily represent some larger population" (Gay, 2000, p. 139). Several creativity and learning constructs were elaborately expanded during the interviews that warrant further exploration.

The emphasis of this qualitative analysis was on creativity. However, the participants' comments were analyzed in light of their measured learning strategy preferences and learning style classification. Learning styles and strategies were used as filters to help interpret the comments. Percentages were used to evaluate the findings so that the quality and richness of the responses were not overshadowed by quantitative data analysis. The learning strategy and learning style groups were not detailed for each creativity theme. They were discussed within the context of the interviews to preserve the flow of the content. A total of 20 musicians participated in the interviews: 6 from Berklee College of Music and 14 Naturally-trained musicians from Tulsa, Oklahoma. The participants in the interviews ranged in age from 19 to 55 years old. The participants included 14 African-Americans, 5 Whites, and 1 Asian. There were 18 men and 2 women.

How musicians proceed with learning tasks, their perception of what is significant during the creative process, and how personal experiences contribute to the learning processes were themes revealed during the interviews. "When a new area is being explored, interviewing

may be useful to obtain leads on hypothesis, variables, and items" (Kerlinger, 1986, p. 447). The main objective of these interview sessions was to explore if differences of learning strategies and learning styles were related to creativity when learning music.

The musicians were able to articulate their thoughts and feelings about what is important during creative learning. Data was gathered from open-ended questions which supplied a frame of reference for participant's answers but minimized the restraints on the answers and their expression (Kerlinger, 1986, p. 442). Although semi-structured questions were asked to specifically identify strategies and styles of music learning, the participants directed the interviews to areas they considered to be meaningful to explain the creative process. Thus, these interview sessions provided insight into the lives and the world of how some musicians think and what is important when learning music is related to creativity. This was analyzed within the framework of adult learning preferences.

A Life In Music

Family

Learning preferences and creativity are integrated processes that are developed during an individual's learning experiences. As a result of one's hereditary equipment, particular past life experience, and the demands of the present environment, most people develop learning styles that emphasize some learning abilities over others (Kolb, 1984, p. 76). This accruement of knowledge, skills, habits, and values forms intricate pieces that can create and individuals' path to higher levels of learning. Many families act as protective environments where children can experiment and mature in relative security without worry of being self-conscious, defensive, or competitive (Csikszentmihalyi, 1997). These family values play a significant role in the development of children and family life (Corey, 2001).

Creativity is not to be regarded as an inherited trait possessed by only a few children; on the contrary, it seems proper to accept that creative potentials, though different in degree, are present in many children. What they need is the provision for healthy resources and stimulation in the environment in which they are living (Hussain, 1988, p. 53). Family members play a role not only in shaping the child but

in the creative process itself. Consider these well-known examples of prominent creators who were exposed to family encouragers: (a) Darwin and his grandfather Erasmus, (b) Van Gogh and his brother Theo, (c) Einstein and his uncle Jakob, (d) Wordsworth and his sister Dorothy, (e) Anna Freud and her father Sigmund, (f) and the Wright brothers (Gruber & Wallace, 1993, p. 107). For 83% of the participants, a family member was instrumental in the decision to pursue and explore music. Parents, grandparents, and siblings were amongst the list of encouragers. Of the participants, 17% stated that friends, educators, and professional artists were also major influences. The significance of early home experiences in the shaping of the character and capabilities of people who have achieved eminence as adults is well documented (Goertzek, Goertzel, & Goertzel, 1978, p. 420).

I had huge support and my parents are the ultimate stage parents. Everything I did they were a part of. Then they pushed dance and athletics too. I was also in like every school band and when I was in the sixth grade they bought me a saxophone. It was my first musical instrument....I started playing in the band. The symphonic band and the jazz band. I got really good grades one semester and my mom surprised me with a guitar. Soon I stopped playing saxophone in the jazz band and started playing guitar in the jazz band....I got lots of support from my family for going to

Berklee. (24-year old, White male, Berklee-trained, Engager, Accommodator)

"For Engagers, everything in the learning process relates to building relationships with others" (Conti & Kolody, 2004, p. 187). Of the participants, 53.3% that discussed influences by family members and others were Engagers, 33.3% Problem Solvers, and 13.3% Navigators. Divergers are feeling oriented and interested in people. The Divergers were the dominant learning style group. Their greatest strength lies in imaginative ability and awareness of meaning and values. The learning style groups were distributed as follows for those who discussed influence by family members; 44.4 % Divergers, 22.2% Assimilators, 22.2% Accommodators, and 11% Convergers. Family is the beginning of creativity development.

Family represents support, encouragement, role modeling, and direction. Many homes have musical cultures that naturally develop talent without effort. For these creative cultures, music is a way of life and is an expression to define who people are. Family support is important for the development of musicians. A group of exceptional musicians studied by Slobod, Davison, Howe, and

Moore (1996) found that no cases were identified of individuals reaching very high standards of musical skills without substantial early support and encouragement. They concluded that in the vast majority of instances, this was largely provided by the child's own family.

Music has always been in my house. My mother loved it, and I've been hearing it as long as I can remember. Naturally when I look at my family roots it was destined; it was a family thing.... So I think it's something that's just in the blood (45-year old, African-American male, Naturally-trained, Engager, Diverger)

My mom and my grandmother [taught me music] so it's just part of my genes. My mother was a very good musician. She was a music major in college.... She trained me and gave me hands-on experience in music and arrangement. Really I learned a lot about producing from her and my grandmother. That's why it was just music within me. (44-year old, African-American female, Naturally-trained, Engager, Assimilator)

I started doing music when I was pretty young. I was raised around it. My father was a musician. He was pretty heavy into it. He had a recording studio and just kind of being in the environment I naturally wanted to get into it. I naturally wanted to do what daddy was doing. (22-year old, African-American male, Naturally-trained, Engager, Converger)

Growing up in a musical environment shape the development of talent and creativity. Bloom (1985) found that performers at the highest levels in several different

fields typically had a family history in which at least two generations participated in the same field or a closely related one. Children growing up in an environment where access to the domain and encouragement to participate are naturally available is an important element in the creativity development (Feldman, 1999, p. 174). Family structure was emphasized by the participants as a natural learning environment that was significant in developing the decision to become involved in music.

Learning can occur in settings other than the school or college campus. The Berkeley Office of Educational Testing Service, at the University of California, designed a survey for the Commission on Non-traditional Study and discovered that out of 17 alternatives of preferred locations for learning, home was rated second (Cross & Valley, 1974, p. 32). This supportive family system is similar to collaborative learning where there is an opportunity to learn in a mutually supportive climate and where opinions, ideas, and new behaviors can be safely expressed (Smith, 1982, p. 91). Some of the most passionate and expressive experiences in people's lives are the result of family relationships (Csikszentmihalyi, 1990).

Families identify and use other resources to assist the creative person outside of home. The direction for the creative person is sometimes clear, but deciphering which path to take calls for the skills and experiences of others. The school counselor's role can be the extended support that many families need to define the goals of the creative person. This is particularly true at transition points when wise counsel and support can make the difference between a process that continues on course and one that is distorted or aborted altogether (Gardner, 1993, p. 175).

My parents wanted me to go to college after high school, and I obviously was into music....My guidance counselor at my high school suggested it [attending Berklee College of Music] because a couple of other kids over the years had gone. My parents were very supportive. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

Navigators initiate the learning activity by looking externally at utilizing resources that will help them accomplish the learning task and by immediately beginning to narrow and focus resources (Conti & Kolody, 2004, p. 185). Navigators are self-directed learners. The Navigator group in this study was the least responsive to family support as being a major influence. Navigators rely heavily on planning their learning without continued assistance from others.

Many family members will support one's creative goals as hobbies but not as serious professional careers. Some families cannot afford musical instruments and specialized resources needed to pursue creative learning. The creative person must learn flexibility to work through many obstacles and find necessary resources to succeed. "Like Navigators, Problem Solvers initiate a learning activity by looking externally at available resources; however, instead of narrowing the options available, they immediately begin to generate alternatives based on these resources" (Conti & Kolody, 2004, p. 186). Ask them what time it is, and they will build you a clock (Ghost Bear, 2001, p. 387).

I really made a decision to get into this thing [music] when I begged my mother to go and see James Brown [a professional entertainer] when I was 9 years old. I had to have a bass, so before I was able to talk my parents into buying me a bass, I built a bass. I built a bass with a box, bass strings, and a thread running to the box, and I pulled it real tight so that it would amplify. So I actually made my first instrument. I was around 13-years old. (42-year old, African American male, Naturally-trained, Problem Solver, Converger)

Although this Problem Solver Converger decided to design an instrument while waiting for his parents to purchase one, generating ideas while critically thinking of ways to find solutions is a fundamental Problem Solver trait. Assembling

a box, bass strings, and thread to make a bass may appear to be a simple construction, but the theory and concepts behind the work take concentrated mental insight. A combination of a Converger learning style with a Problem Solver learning strategy multiplies problem-solving, hypothetical-deductive reasoning, abstract conceptualization, and trial-and-error processes of generating alternatives times three. Convergers create new ways of thinking and doing, organizing information, designing experiments, testing new theories and ideas, and analyzing quantitative data (Kolb, 1984, p. 93).

The family encourager can help develop creativity by assisting creative people to recognize their unique qualities. Many talented and creative people do not recognize that their talents far exceed many established professionals in the field. Families who build confidence, self-esteem, and trust in one's abilities are developing important characteristics necessary for the creative person to succeed. In order to acquire expertise and risk experimenting with unusual ideas, the creative person must be given the opportunity to explore and learn who they are.

I grew up in a home where I was encouraged to sing and dance. I sort of learned that I had talent. The singing aspect was a gift. I sang in church

and elementary school. It was more challenging work in high school because we were doing more difficult pieces [music]. I was doing Yiddish in high school. So I was learning a new language and then learning the meaning of the words I was singing. I was challenged on many levels, but I was the kind of kid that thrived on how I could do something. (55-year old, African-American male, Naturally-trained, Problem Solver, Diverger)

Although many musicians continue to receive family support as adults, some musicians' parents are not supportive with the decision of pursing music as a professional career. Some parents are totally opposed to the notion of pursuing music while others resist in the beginning but over time accept the creative pursuit.

They [parents] supported me in a hobby kind of way, but when they found out that I was going to take it seriously, my father and I fell out [disagreed] about it....I didn't want to go to music school; I wanted to go straight to New York. But just to get out of the house and not have my parents panic too much, I went to music school. (42-year old, African-American male, Naturally-trained, Problem Solver, Converger)

It took a while to get the support but I think my parents knew early on that I was really into knowing that I was going in the direction of music as a career because that's what I was really in too. It took a while. It wasn't until my last year and a half in high school that my dad really started to support me. He's always supported me learning music but going along with it after high school and taking it seriously was another story. (24-year old, White male, Berklee-trained, Problem-Solver, Assimilator)

A crucial family role is assisting the creative person to focus on alternatives and backup plans. Navigators believe that the task can be accomplished more efficiently when the job is done by themselves (Conti & Kolody, 2004, p. 185). Youthful dreams of "making it big" exist amongst many musicians, but the reality of reaching 30 years-old without success is eventually recognized. Levinson (1978) defines developmental disappointments in one's thirties from the overwhelming feeling that one cannot accomplish the task of becoming all that they can be. The advancement of a chosen path cannot fulfill affirmation and terms defined by one's current life structure (p. 191).

No one ever encouraged me to do it [go to music school]. I didn't think it was necessary. Of course the older you get, the more you would like to go back and do it. I've got so much of my knowledge from hands-on industry. Just dealing with the business and reading, but you still wish you had more of a push. Most of the people that I see come out of Berklee [music school] do something. They become industry players, and a lot of times you don't really realize that when you're younger. (33-year old, African-American male, Naturally-trained, Navigator, Assimilator)

Some of the participants in this study expressed family as a basic foundation for experiential freedom to learn. These participants shared a common theme of security,

support, and a developmental process towards self-confidence while pursuing the creative act. As the family, career, and educational groups become more effective, the quality of people's lives rose. Educators are striving to better understand how the classroom functions as a group or as an extended family (Johnson & Johnson, 1982, p. 2). Conversely, educators must continue to develop new methods of communication and strive to understand the creative person's personality without forcing traditional instructional methods. The family role is an important feature for people who pursue their dreams and aspirations. Whether family roles are negative or positive, the presence of family influence exists. Many of the participants revealed strong support and modeling from family, support reinforced by others outside of the family system, and resistance with acceptance.

Collective Music Learning

All of the participants performed with a choir, church, or some type of musical group. Mutual feedback and shared support promote self-understanding within small groups; they enhance the identity and cohesiveness that provide a base of common experience upon which new learning is built (Peters &

Jarvis, 1991, p. 208). The musicians in this study naturally ascended from one musical transitional experience to the next. Some of the participants moved from groups to solo projects; however, a musical group was fundamental in their experiential learning process. Creative people experience and explore many relationships while learning to develop and refine a musical identity.

I got into the church choir when I was in the 1st grade. In the 1st grade, I did a talent show as James Brown [professional entertainer], and people were screaming. I started playing violin and saxophone when I was in the 6th grade. I was in my first band when I was in the 7th grade. Then I was in the school band. I was too young to play in clubs so we did college circuits, some school dances. I was playing saxophone and singing when I was in the 10th grade. I've now recorded two CD's and about five singles. (45-year old, African-American male, Naturally-trained, Engager, Accommodator)

Although this musician moves through many musical experiences, the value of seeking new relationships can easily be overshadowed by the participant's musical activities. The interaction of the drive to explore new relationships and learn new experiences are synonymous for creative artists seeking a comfort zone to find their identity. This Accommodator's style emphasizes concrete experience and active experimentation. The greatest strength

of the Accommodator lies in doing things, in carrying out plans and tasks, and in getting involved in new experiences; The adaptive emphasis of this orientation is on opportunity seeking, risk taking, and action (Kolb, 1984, p. 78). This participant moved from one challenging creative experience to the next: church, talent shows, violin, saxophone, group band, school band, singing, and recording music. This participant's refining process integrated collective music learning while developing a distinctive music style.

One of the best ways to foster growth and cooperation amongst learners is through groups. "The goal of what Rogers called a 'basic encounter group' was to enable the participants to become experiencing persons capable of choice, creativity, valuation, and self-actualization" (Ellias & Merriam, 1980, pp. 129-130). The group, which can be a type of extended family, has a unique language that governs behavior, communication, and even how to feel about and experience life. They have celebrations and rituals that mark transitions, protect them against outside interference, and connect them to their past as well as a projected future (Corey, 2001, p. 446).

Participating in groups can be a springboard for self-confidence. For example, the collective learning group can be used as an instrument to break negative learned habits and introduce individuals to new and undiscovered means of confidence through music. Realizing unique potentialities, being an individual, and having others recognize, respect, affirm, support, and encourage personal talents and individual uniqueness develops a person's self-esteem (Gudykunst, Ting-Toomey, Sudweeks, & Stewart, 1995, pp. 40-41).

In high school I had learned enough to be able to make music and meet peers there. That was the first place I actually found peers in music. People who were able to make music the way I made music and a little bit of competition kind of resolved from that. That gave me my first venue to perform and actually get a crowd response and crowd reaction, which was the most attention I really got in high school. I pretty much played the back, but music was my outlet. Music was my outlet to the popular kids. (22-year old, African-American male, Naturally-trained, Engager, Converger)

We were at McClain High School, and there was going to be a talent show. He [a friend] asked me to be in the talent show with him, and I didn't want to be in it. I wasn't getting up on anyone's stage to do anything. We had a little tryout, and I was nervous but when I got up on stage and did my tryout I said, "Man, this is it!" It changed my whole mind set about it [music performance]. That's where it kind of hit me and everything fell

into place from that.... I said, "All right, I'm not going to be shy any more." (33-year old, African-American male, Naturally-trained, Navigator, Assimilator)

Confidence comes with successful experiences. This is especially so for people who have had few successful experiences in the past. An environment that encourages and rewards creative effort, even when it is not highly successful, enhances creative development.

Church

Of the participants, 50% of the collective music group began the creative learning practice in a church community.

A community is a group of individuals who come together intentionally, who share a common purpose, who will honestly enable each other to accomplish that purpose, and who believe that individual purposes can best be accomplished through group endeavor. (Thibault, 1995, p. 350)

Traditionally, the church has been the starting point for many professional musicians such as Elvis Presley, Ray Charles, Della Reese, Aretha Franklin, and Lou Rawls. The participants who began musical activities in church were encouraged and supported by the family role models.

I guess just being around it watching my father and my mother play the piano and deal with church choirs things of that nature and different community organizations. I think I got trapped into it. That's really how I got involved in it,

my parents. My family is heavily involved in music. (33-year old, African-American male, Naturally-trained, Navigator, Diverger)

Church is a place where the spiritual music message is heard. Many small churches are not equipped with musical virtuosos but appreciate the volunteered time and efforts of their members. Thus, the church was a performance springboard for cultivating young developing musicians to experiment and refine their talents without fear of ridicule and embarrassment. All churches and choirs do not promote secure learning environments, but the participants in this study emphasized church, choir, and family support as an essential component for developing the creative act.

Friendships develop for many years within faith communities that help provide a sense of belonging and acceptance (Gerdes, 2003, p. 8). Many of the participants began creative music learning in church.

We grew up in a city that was full of music. I grew up in Oakland, California. So I was involved in a lot of church circles. I grew up around a lot of good musicians and good music. So my influences were not only in the church and church choirs, but it was also among great jazz music. I came up and was emerged in music.... The church helped me put my style together. It really helped me to gel and be comfortable in my own personality of who I am musically. (44-year old, African-American female, Naturally-trained, Engager, Assimilator)

I came from a wonderful family background. My moms always supported me and believed in me. I played in church of course, played the bass in church. I consider myself a bass player although I play keys [piano] fairly well. I've got great family support even today. (34-year old, African-American male, Naturally-trained, Problem Solver, Diverger)

Many of the participants causally spoke of church as a normal part of the music learning process: attend church, participate in church, and perform in church. The community of Tulsa, Oklahoma, has over seven hundred churches (Tulsa Metropolitan Ministries, 2004). The dominate presence of churches in the Tulsa community is an influential factor when evaluating the Naturally-trained musicians responses to creative learning. Nevertheless, 90% of the Berklee-trained participants also participated or were influenced by church or choir activities.

When I was younger, I use to sing in a little church choir. I got the acting bug and started doing musicals and musical theater. Before I knew it by the time I was 16, I'd been in about 50 productions. (24-year old, White male, Berklee-trained, Engager, Accommodator)

My grandfather on my dad's side was a church organist so his whole side of the family played music. My dad played violin and my grandfather started showing me stuff on the piano when I was pretty little. I started taking lessons when I was around nine, taking classical piano lessons. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

The church community is an extension of family support and is encouragement away from home. Trusting relationships in a non-threatened environment supply a direct outlet for improving skills to experiment freely. The participant's families opened the doors of creativity by teaching the process of building confidence without fear of experimentation. Timidity is not conducive to creativity for fear of failure, fear of exposing one's limitations, and fear of ridicule are powerful deterrents to creative thinking (Crutchfield, 1962).

The church community was a major influence for developing creativity with many of the participants in this study. The church was an experimental platform to perform, perfect, and explore personal passions for music. Church support supplied a discrete encouragement that many of the participants naturally accepted without recognizing its significance in the creative learning process.

High School

High school can be a fun time of a person's life, but it can also be one of the most frustrating. Students who are searching to find who they are and where they are going are faced with many challenges and severe choices. The right

choices can lead to smooth transitions into adulthood while the wrong choices can prevent someone from fully reaching their optimal potential. High school builds many relationships: teams, clubs, organizations, and personal connections. These high school relationships are theoretically molding youth to find identities in their field of interest. However, many creative people do not respond to the structure of high school. Being a stellar student is clearly not a prerequisite to the production of great creative work. The importance of doing well in school varies with the field and the individual. For example, Freud was an outstanding student, but Einstein was not (Feldman, 1999, p. 176).

Erik Erikson (1963) built on Freud's ideas of personality development and extended his theory by stressing the psychosocial aspects of development beyond early childhood. His theory of development holds that psychosexual growth and psychosocial growth take place together and that at each stage of life one faces the task of establishing an equilibrium between one's self and social world. Erikson's Adolescence stage of Identity versus Role confusion describes the transition to adulthood.

A time of transition between childhood and adulthood. A time for testing limits, breaking dependent ties, and for establishing a new identify. Major conflicts center on clarification of self-identify, life goals, and life's meaning. Failure to achieve a sense of identity results in role confusion. (Corey, 2001, p. 75)

Of the participants, 90.4% made the decision to explore and pursue music seriously between the 9th and 10th grade. All of the participants were high school graduates. Of the participants that made the decision to pursue music seriously, 50% decided in the 10th grade while 44.4% decided in the 9th grade.

According to Erikson, the major developmental conflicts of the adolescent years are related to the formation of personal identity. Adolescents struggle to define who they are, where they are going, and how to get there. If they fail to achieve a sense of identity, role confusion results. "Adolescents have the task of integrating a system of values that will give their life direction" (Corey, 2001, p. 80). The participants described their adolescent years in high school as a crossroad for exploring and learning to enhance their musical creativity.

When I actually started playing it [music] on my own initiative and actually sitting down loving it and taking time with it, I probably was 14 or 15

years old. It was just my love for music. By the time I got in high school, I was playing and actually calling myself a musician. I played in the jazz band. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

In my freshman year of high school at Booker T. Washington, she [sister] came to me and handed me my schedule, and she had signed me up for choir. I started singing in the choir, and I loved it. Then I saw talent shows where guys sang and girls went crazy, and I said "OK, I'm going to do this".... I started singing and fell in love with it and just kept working and working to get better and better.... So I started writing [songs]. I was 14 years old when I wrote my first song. (31-year old, African-American male, Naturally-trained, Engager, Diverger)

Ever since high school I've wanted to go to Berklee since ninth grade and pursue music after that professionally. It's just my love for music and playing and writing... I mean there is just nothing else I'd rather do. (21-year old, White male, Berklee-trained, Problem Solver, Assimilator)

The unmistakable disclosure of passion, love, and enjoyment, stimulates the participants through a journey of creative growth. Learning styles and learning strategies have no relationship when determining one's love and passion for any creative act. The creative persons differ from one another in a variety of ways, but in one respect they all are unanimous: they all love and enjoy what they do (Czikszentmihalyi, 1996, p. 107).

Real-life learning is the ability to learn on a recurring basis in every-day, real-world circumstances. The concept "has been used to distinguish typical adult learning from the academic learning of formal situations that is usually spoken of as studying or educating" (Fellenz & Conti, 1993, p. 3). Unlike the accessibility of test answers, answers to real-life problems are often illusive (p. 39). Music is a profession of illusiveness, many promises with no guarantees. The creative person must be flexible and continually maneuver around obstacles and roadblocks with intense motivation.

The most important thing to have and get started in music is the desire to keep going. You have to have the motivation to get something done. You can't just start and let it sit. If you really want to get into music you really have to take the initiative to get out and do something with what you have. Buying equipment, mastering certain instruments that you want to play, learning as much as you can from the business side of it. Many of these things come into play, but the basic thing that what you would need are desire and motivation to what to do it. (22-year old, African-American male, Naturally-trained, Engager, Converger)

The importance of formal schooling in the lives of great creators has been controversial. There are those like Einstein and Piaget who have claimed that formal schooling

was a curse to their development, while others like Darwin who found positive things to say about academic environments but not about specific classes or requirements (Feldman, 1999, p. 176).

There are creative people who have never attended or completed high school and have learned other methods during adolescence to discover their purpose. Conversely, the participants in this study discovered that "something" during their adolescent years in high school which supplied the missing piece towards their creative identity. However, high school itself was not referred to as a channel of inspirational creative learning. High school supplied a platform to cultivate pre-adult dreams and aspirations. When the participants spoke of their adolescent years in high school, an inspirational person or teacher was named as a supporting resource.

Bands and Choirs

Greek philosophers Plato and Aristotle believed that learning music was essential for one to reach the height of human potential (Elias & Merriam, 1980, p. 16). School bands and choirs continue to be significant with individual personal development today. All of the participants were

involved with bands and choirs with 45% in bands, 20% in choirs, and 35% in both bands and choirs. Some of the participants were also in bands and musical groups outside of school.

"Creative individuals have struggled through marshes of ignorance, deserts of disinterest, and with the help of parents and a few visionary teachers they have found themselves on the other side of the known"

(Csikszentmihalyi, 1996, p. 125). There is often a particular teacher who recognizes the child's curiosity or ability and starts cultivating that individual's talents. Two main factors stand out with influential teachers. First, the teacher recognized the student's talents, cared, and believed in the person's abilities. Second, the teacher encouraged the student to stretch challenges beyond that person's normal comfort zone (p. 174).

Basically I got started when I was 14. My teacher at that time was a really, really, inspirational kind of teacher. She was very uplifting, gave me advice, and had this vision for me that I really didn't have because I didn't see what she saw. She saw like this great singer. I would say, "No I don't think so". Basically she trained me and gave me voice lessons with classical training from 14 onward. I started getting into competitions and stuff like that around the school as a solo artist. Then she made me president of the chorus

class. She told me about Berklee, and that's how I got to Berklee. She's always been my guide basically. (21-year old, African-American female, Berklee-trained, Navigator, Diverger)

Havighurt (1961) identified the developmental tasks associated with different stages of growth which induce a person's readiness to learn different things at different times and create "teachable moments" (Knowles, 1973, p. 43). Here the encourager saw the unseen within the student. The student's artistic awareness is not yet able to recognize unseen potential, raw talent, and abilities that can be developed. Students have to see on their own behalf and in their own way the relations between means and methods employed and results achieved (Schön, 1987, p. 17). The fundamental purpose of education and training efforts is to develop adults towards the meaning of their personal power and self-worth. Only if awareness of individual empowerment is realized will adults possess the emotional strengths to challenge behaviors, values, and beliefs (Brookfield, 1986, p. 283).

Many students carry memories of an influential teacher who scarcely knew they existed yet who said or did something at just the right time in their lives to snap a whole world

into focus.

When I was 15, a very important thing my first bass teacher told me when I went to take my first lesson. He was in there [the practice room] complaining. He was actually a guitar player, but he taught bass. His complaint was that there was a shortage of bass players. That was one of the first things I heard, so I was able to take that and run with it. I was told that there was a shortage of bass players and that bass players always work. (42-year old, African-American male, Naturally-trained, Problem Solver, Converger)

This Problem Solver Converger critically reflected upon, analyzed, and evaluated the teacher's frustration of a shortage of bass players and make a 37-year commitment to the bass guitar. More astounding than his 37-year commitment is how the participant at 42-years old still remembers the teacher's inspirational words. One statement by one teacher, whether negative or positive, can alter a student's path through life.

Teachers are important. They can play either a positive role or negative role. "Any position of authority, whether ascribed or prescribed, carries within it the possibility of abuse. This potential will be reduced if facilitators seek, as rigorously as possible, to submit all assertions (including their own) to critical scrutiny" (Brookfield, 1986, p. 292).

The way that it was explained to me by the music teacher that I had was that if you weren't a virtuoso, you weren't getting into music school. You have to be phenomenal on something in order to get a scholarship. If you couldn't sight read, you couldn't go to music college. These kind of things were embedded in me in high school. Plus, my music teacher in high school wasn't really a music teacher. All these things sort of come into play. This is why I didn't pursue music because I didn't think I was talented enough to do it. (22-year old, African-American male, Naturally-trained, Engager, Converger)

Some people and even the teachers at Berklee seem very negative about the whole thing [becoming successful in the music business]; you can't make a living; you don't know how hard it is in music. If you want to make a living, you're going to have to learn to write jingles because you can't make a living writing songs. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

When the receiver of a message is unclear about the assumptions on which a message is based, reduced communication and misunderstanding is produced (Wlodkowski, 1985, p. 12). Teachers must be careful when suggesting and expressing personal opinions to learners. How learners interpret a teacher's expression may not be the right message. Individuals can become discouraged and function ineffectively by emulating other's mistaken beliefs. Gifted students may have an especially difficult time forming a positive self-concept. Gifted children often have difficulty

in evolving a self-concept because teachers may suppress their new and often unusual and deviant ideas (Glover, Ronning, & Reynolds, 1989, p. 235). By their negative attitudes, these adults may communicate to the gifted child that commonly accepted ideas, values, and concepts are not to be questioned. Encouragement is the most powerful method available for changing a person's beliefs. It helps individuals build self-confidence and stimulates courage (Corey, 2001, p. 114).

People idolize others and dream of having the same fame, fortune, and financial security. Many people can remember an influential person who changed their lives and made them see the world through different eyes. "For many students, the teacher serves as a concrete image of what they wish to become. The attraction may be specific, 'I'd like to have that kind of job myself', or 'He or she seems to have a freedom I admire'" (Daloz, 1986, p. 32).

My music teacher inspired me. He was the guy who introduced me to music and he was cool. He played sax, and he was cool. He had a little sway about him.... He was always fun to be around.... I wanted to be cool so I started playing sax. He kind of nurtured me. He would always get us prepared for a performance. I think that holds a lot of musicians back if they don't have a strong role model. (45-year old, African-American male,

Naturally-trained, Engager, Accommodator)

Many of the participants utilize collective music learning to discover who they are, what they like, and where they are going.

Teaching Creativity

By the end of the 18th century, it was concluded that whereas many persons may have talent, original genius was truly exceptional and by definition was to be exempt from the rules, customs, and obligations that applied to the talented (Albert & Runco, 1989, pp. 221-230). The most stimulating conversation for all participants was the discussion of the process of creativity. Of the participants, 62.5% agreed that creativity could be learned while 37.5% believed that it could not be learned. These discussions elaborated further by defining differences between creativity and talent. The majority of participants believed that talent was a skilled-based concept that could be learned but creativity needed less structure with more freedom.

When freedom exists, spontaneity and genius are irresistible because they reflect an innate predisposition that needs no education. By the end of the century, it was

concluded genius was original, manifested in someone out of no where, out of reach or need of education, and immune from the rules and obligations appropriate for talent (Albert & Runco, 1989, pp. 221-230). Freedom without limitations to create what, when, and how you want was the underlining theme amongst the participants.

There were many imaginative definitions from the participants to describe the creative process and the creative person but only few explanations to describe the creative situation and the creative product. These participants define, the creative process as an internal decision to open one's mind, explore, and release the innate energy needed to surface the creative act. People, even those who achieve notable creative accomplishments, seem to have an equally pervasive tendency to be trapped by prior experiences and to carry over knowledge that would be better left behind (Ward, Finke, & Smith, 1999, p. 190). The participants describe the freedom to "let go" without restrictions of thought and judgement during the creative process as characteristics of learning creativity.

I think you can teach ways to achieve creativeness [in song writing]. Ways to open up the doors to get there... Maybe one step would be to teach a

person that every word and phrase that comes to your mind, write that all down, and then don't stop writing until you have more thoughts. Then go back and reread what you've written and take stuff out that you like. Something like that can open up everything that comes to your mind. (21-year old, White male, Berklee-trained, Problem Solver, Assimilator)

If they allow themselves to expand to be [creative]. Sometimes some people have a concept about their limitations and where they believe they can go, and that's only where they believe they can go. So they may be able to be creative within that realm of thought. But in order to take them out of that, you have to take them out of their box of thinking. Their own realm of psyche, what they think is possible. For some people that's a big leap. That's a huge leap and they may not be able to handle that. (44-year old, African-American female, Naturally-trained, Engager, Assimilator)

Some people define creativity as the "gift of "something within" -- A type of unexplainable mystical divine intervention. Earlier accounts of creativity were also based on this principle. The creative person was seen as an empty vessel that a divine being would fill with inspiration (Sternberg & Lubart, 1999, pp. 4-5). This may be one reason why few resources have been invested in the study of creativity, relative to its importance both to the field of psychology and to the world (p. 12). Many people believe that creativity, like love, are unexplainable and cannot be

taught or scientifically measured.

I don't know if you can [teach creativity]. To me I really believe that if you're creative you may not know of it. It maybe an unknown talent until somebody brings it out of you. But I don't believe you can learn creativity because creativity is spontaneous, very spontaneous. If someone is creative then you should almost be ready to do almost anything creatively. I usually say, "OK just let me get started." I just do that and follow that creative sense. (21-year old, African-American female, Berklee-trained, Navigator, Diverger)

I think creativity kinds of comes with the type of person and personality they have. The type of people that they are. The stimuli around whatever kind of motivates them to do whatever. Creativity is not really something that's learned; it's kind of something that you're given. (22-year old, African-American male, Naturally-trained, Engager, Converger)

Of the participants in this study, 42% defined talent as a skill-based ability that a person possessed naturally before development. Other participants clearly were not able to distinguish the differences between talent and creativity.

Talent is an innate ability. You already have a propensity within your being. You're already called to do that. That's talent. It's something that's not taught, but it's given by God. It can be developed, honed, and skilled and made more skilled, but it is already innate, it's there. (44-year old, African-American female, Naturally-trained, Engager, Assimilator)

Talent is basically the ability to do something. Talent is achieved by training. You can be talented, but you learn that. You acquire certain techniques and certain basic teachings that will allow you to do something. Someone who is talented on the piano can read and write music very easily. They are capable of doing things that they've been taught basically regenerating, regurgitating things that they've been taught in the past. (22-year old, African-American male, Naturally-trained, Engager, Converger)

[Talent is] that thing that nobody knows what to call it [talent]. It's just that thing, and you know it when you see it. I guess that talent is the only word you can call it. You can't put it in a box simply because it can come in so many different forms. One guy might have it on the entertainment end, and one guy might have it from the vocal end or from the playing end. It's in so many different ways in so many different people.... You know it's there and you feel it when you hear it. (37-year old, African-American male, Naturally-trained, Engager, Diverger)

The words ability, development, direct, focus, skill, teach, techniques, and training are included in many individualized training and development programs. The participants used these words naturally to define talent but stressed that talent must be honed and developed. "Exciting though it may be to believe that creativity wells up naturally from primaeval feelings, there is very little indication in the facts relating to the lives of creators that significant ideas emerge from untutored minds" (Ochse,

1990, p. 178).

Everyone is endowed with talent in some form or another. One may be talented in cooking, writing, juggling, or teaching, but after talent is polished very few people move to higher levels of creative freedom. Talent is a prerequisite for creativity, but creativity is not a prerequisite for talent. Rarely does a person automatically sit at the piano and begin performing Mozart's Symphony in D without years of training and developing technique. Creativity is special, but one must learn basic fundamental skills of the domain first before creativity can exist. Facts relating to creative achievers suggest that creativity will be facilitated by first endowing children with basic knowledge and discipline and then by giving freedom to those who wish to work independently (Ochse, 1990, p. 179).

With a traditional method of music learning, talented individuals gradually move from high dependency of teacher reliance towards a low dependency of self-directed learning. Creativity can be blocked if one's learning style becomes too rigid and structured. Naturally-trained musicians sometimes begin the music learning process at the low-dependency level where the artist has learned to perfect a

style or instrument by watching, listening, and learning from others. How intelligence (dependency) is needed is representative of the field (Getzels & Csikszentmihalyi, 1976). For example, a great amount of intelligence may not be needed to be a creative musician but certainly would be expected in a Nobel Prize-winning physicist (p. 251). Regardless of dependency direction of the learner, the teachers much possess vision and planned direction for learners to reach optimal potential.

I think that talent can be developed. I believe that you have gifted people and you have talented people. There are certain individuals out there that just have a gift, kind of a natural born gift to do certain things that other people don't have. But I can take that same person, groom them and mold them and teach them the art, and teach them, and they can become a great individual. I can take the talent and mold it into something great. (33-year old, African-American male, Naturally-trained, Navigator, Diverger)

The general theme amongst the participants was that everyone possesses a talent, there are different levels of talent, and only a few move from extreme talent to creativity. A large amount of studies have explored the nature of the subprocesses involved in creativity. Many of the participants in this study defined creativity as a type of inherent freedom to create whenever and whatever one wants.

Creative Freedom

Researchers consistently have found that creative people have a strong drive for independence of thought and action. In particular, they seem to want very strongly to make their own decisions about what they do (Glover, Ronning, & Reynolds, 1989, p. 137). The three major elements that describe an autonomous learner are independence, the ability to make choices and critical judgements, and the capacity to articulate the norms and limits of a learning society (Chene, 1983, p. 38). Approximately two-thirds (65%) of the participants defined creativity as a self-directed freedom to explore and defy norms both internally and externally.

It [creativity] is the ability to be completely free in your thinking process, in your acting out process, in your development process. It is leaving yourself available and wide open for the creative spirit that is within you. I find that a lot of people are not able to get to the next level because of inhibitions, because of fear, because of what might be in the back of their mind what someone said when they were 10 years old. If I do something that someone else doesn't like, it doesn't matter because I have the freedom to do that. We have to get away from ourselves. Tell yourself to sit down. Let me write, and let me create without the self interfering. Let me use me as a vessel. You're my instrument right now. (55-year old, African-American male, Naturally-trained, Problem Solver, Diverger)

As for this Problem Solver, apprehensions are a barrier for releasing creative learning. Research suggest that artists are indeed more emotional and sensitive than non-artists. Czikszentmihalyi (1997) defines psychic entropy as negative emotions: sadness, fear, and anxiety. These negative emotions interfere with the creative process, and the learner cannot use attention effectively to deal with external task (p. 22). For example, one cannot give the best performance if stress, anxiety, and nervous tension dominate thinking prior to the performance. Many of the participants believed that a free spirit was naturally part of the creative process.

Creativity is more based on free spirit. Kind of being able to come up with something out of nowhere. Just grasp an idea from hearing sound may be and just be able to reproduce it and mold it. You make it the way you want to make it with less ability than say a talented person would have. Talent doesn't necessarily represent creativity. I've known some talented musicians. They can play what you put in front of them. They can play anything, but they can't ad-lib. They can't just shoot from the hip and play anything. (22-year old, African-American male, Naturally-trained, Engager, Converger)

Creativity is the ability to create, to make something out of nothing. To make something out of a thought, to make something out of an idea. You can be a creative football player, you can be a creative basketball player as well as a musician.

Creativity is taking an idea, thought, or concept and taking it mostly to another level. I think because sometimes people are taught music and sometimes when we are taught music from schools often times we play what we read, but often times it becomes mechanical when you just read straight out when you play. I don't really consider that being creative because you're really playing what somebody else created. But sometimes when you take that and embellish on what you read and add your own flavor to it and add your own ideas to it, then it becomes creative. (49-year old, African-American male, Naturally-trained, Navigator, Assimilator)

I think that you can open their mind if it's there. I think that there's a lot of creative people who have closed their minds and went on past what led them to do things in ways that are uncreative. They just need to free their minds, open it up, and have faith in themselves and faith in God and trust in themselves to be creative. You've got to just trust in yourself. Once you trust in yourself, you start to do your thing and once you start to do your thing, you'll see that your thing is all right. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

Many creative people are constrained within the box of their creative freedom and are forced to produce what the participants define as non-creative products in order to survive. Domains vary in terms of accessibility. Sometimes rules and knowledge become the monopoly of a protective group, and others are not admitted to it. Not being able to artistically release free self-expression leads many

creative people to other professions for survival (Csikszentmihalyi, 1999, p. 320).

No matter how gifted people are, they have no chance to achieve anything creative unless the right conditions are provided by the field. The great musical creativity that blossomed in Germany in the 18th and 19th centuries was in large part due to the fact that each aristocratic court desired an orchestra to amuse itself and to show its superiority over the others. There was constant interest in and competition for new musical talent. If there are fewer creative classical composers today, it is probably not due to lack of talent but to an absence of opportunities to display it (Csikszentmihalyi, 1996, pp. 333-334). Musicians eventually must choose between originally, building off of other's ideas, or being both original and building off of other's creativity.

Originality

Creativity can be found in two different ways:

- (a) when an old and familiar problem is seen in a new way or
- (b) when a new and unfamiliar problem is seen in an old way

(Sternberg, 1988, p. 136). Nearly half (40%) of the participants use other artist's ideas when creating while

about a third (35%) use only original ideas. One-fourth (25%) use both other artist's ideas and original ideas. Learning styles and strategies had no relationship with the decision to be original or to use others' ideas when creating. The statistical data showed that there also was no relationship between the participant's creativity scores, age, and originality. Many of the participants understood that in order to find a way into the music business, one must sacrifice personal music preferences and provide the domain with what they want. The sacrifice was perceived as part of the professional entry process.

I think there's no original music left because everybody is using other people's ideas. When I first came to Berklee, I had been studying for 4 years. My music teacher told me that if you cannot play the piano and learn a hundred songs by other composers, don't even think about composing. So I try to copy a tune, listen to it, and then try to copy the arrangement. From that base, I try to get my own ideas. I think that's the true way. Some people try to tell me that they don't listen to other people's music because it bother's their originality. But I totally disagree. (27-year old, Asian male, Berklee-trained, Problem Solver, Accommodator)

I think to do something completely original has not really been my style. I like studying other composers and other musicians, and I like to try to expand upon what other people have done. I'm really a firm believer in studying the past and history to see what other people have done.

Studying their mistakes, the styles they've written, and how they advanced music and pushed it further and expanded on different things..... Now I'm trying to define my own style into a original sound because when I came up to Berklee I kind of lost some of my individuality, and I'm trying to get that back. That "Berklee sound" that we all get. You can hear it. (21-year old, White male, Berklee-trained, Problem Solver, Assimilator)

For these Problem Solvers, re-inventing the wheel was not necessary for starting a creative project. Mozart's first seven piano concertos contained no original music. They were constructed out of works of five other composers. This pattern of development indicates that Mozart's earliest musical experiences involved immersion in the works of others and probably involved use of the earlier composers' works as models for how certain compositional problems could be handled (Weisberg, 1986). By researching and studying past works and accomplishments of others, a composite design can be assembled to develop novel and creative thinking. Refining available knowledge may prove as important as using research to solve an immediate practical problem or developing a new product (Merriam & Simpson, 1984, p. 7).

I come up with something original. It's mainly that way all the time. Once or twice I'll get inspired by other artists, but I won't take their idea. It would only be an inspiration to write within a certain style. (21-year old, African-

American female, Berklee-trained, Navigator, Diverger)

I like to start from scratch. Obviously I'm probably not coming up with truly original ideas, but it's always my goal to come up with something totally original. Whether it's possible or not, I don't know.... I sort of don't think that anyone's going to come up with something truly new. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

Whatever works for someone else is fine, but I can't do that [build off of other's creativity]. I tried to do that and it was just terrible. It was such a terrible experience because it sounds stupid to me and no one has ever really said like, "WOW". Why would I try to fake it.... I think that my calling as a writer is to search within me and be original. Now, I'm inspired by other bands; I mean everybody is. It's impossible to not be, but I just never want to just build off of someone else's stuff. (31-year old, African-American male, Naturally-trained, Engager, Diverger)

The words influence and inspiration are expressed by these participants as tools to build off of others' ideas. The degree to which particular innovations depart from existing frameworks varies. Some creations may be new in some small way but remain, in most ways, much like other members of the same category while others may differ quite radically. Nevertheless, some type of connection to previous products does seem to be necessary for recognition of differences and novelty (Bailin, 1988, p. 8). Many of the participants

stated that original compositions rarely exist due to the continuous exposure of listening to other musician's music.

I believe that both schools are equally important [originality and building from other's originally]. We've got to pull from both schools. I really believe in being aligned historically, knowing your past, how music is developed, and how it's got us here. It's impossible for it not to be anything original left. The question is: Is the originality being let through? There was a period of time when it seemed like the executives [of the music industry] were controlling what was being let through. A lot of times they'll bypass somebody that is really happening [talented], and it's new and it's different. But they'll bypass them for something that they think is sure. A lot of people like to be comfortable and go with what's sure. That's what I think is holding back the originality of the music business. (42-year old, African-American male, Naturally-trained, Problem Solver, Converger)

This Problem Solver Converger critically expressed a valuable concept defining one possible explanation for the revenue failures of the music industry today. Gatekeepers of the music industry control the future of what is being played, what is being sold, and who is getting signed to record contracts. Someone who is not known and appreciated by the relevant experts in the field has a very difficult time accomplishing something that will be seen as creative. If they do manage to accomplish something novel, that novelty is likely to be ignored and ridiculed

(Csikzentmihalyi, 1996, p. 54).

The Business of Music

While there are many people who are highly accomplished in music, it takes a special breed of person to face the stiff competition that a career in music necessitates throughout one's professional life. A career in music performance means that one must extensively practice and win competitions only to receive what is often a low salary. Musicians often become music teachers to support themselves. Hence, many performers "moonlight" during the day with odd jobs. Eleven participants did not comment on the music business in their interviews. However, 89.9% of the participants that commented on the music industry had a negative outlook of the music business with only 11.1% having a positive outlook. Age was not a factor in determining the participant's attitude towards the music business.

Creative people inevitably encounter obstacles but so do non-creative people. Such an obstacle can be either an impediment to future creative performance or a spur toward it. Artists of various kinds almost inevitably receive at least one unfavorable review or rejection. Abilities to

sustain creativity requires an ability to overcome hurdles and not be dragged down by them. "The question is not whether or not an individual will encounter obstacles but rather how one will handle them. A creative individual perseveres" (Sternberg, 1988, p. 144).

The theme of realistic expectations surfaced from 70% of the participants. The participants described their negative attitudes as a protection mechanism to prevent the disappointments of broken promises and unfulfilled dreams. Negative attitudes were also expressed as the result of past negative music business experiences. Many of the participants shared similar beliefs about the difficulty of getting into the business of music.

There are processes that are more successful than others. But it's really luck, timing, and relationships. More relationships than anything. Not talent, not ideas, not looks. None of that stuff. It's luck, timing, and relationships. I didn't know that when I first started out. I come from the spiritual world of "God opens doors that no man can close". So I figured if God wants me here, he's going to do it for me. I realized that God uses luck, timing, and relationships. Timing and luck, or favor as they call it in the spiritual world. But that's what He uses. I don't care how much favor you've got if you don't have quality relationships it doesn't matter. You don't get in [music business]. (39-year old, African-American male, Naturally-trained, Engager, Diverger)

This Engager Diverger was a minister's son who realized that "making it" in the music business was going to take something more than spiritual beliefs, self-discipline, and talent. Merging spiritual beliefs with relationships, timing, and luck gave the participant an awakening of needing something more to break through the difficult domain of the music business.

Recognizing the difficulty of achieving a goal can prepare one for the roadblocks and obstacles along the way.

Now to get where I want to go musically, it's easy because all I have to do is practice. But professionally it's difficult because you're faced with the system, the machine. The machine is not moving the way that I'm moving.... When any musician really tries to create something they have to realize that they're going to struggle. I've accepted that. If you look at society as a whole it's becoming less creative and more predictable. (31-year old, African-American male, Naturally-trained, Engager, Diverger)

This Engager Diverger defines the system of the music business as a machine. The common characteristic of systems approaches is the emphasis on the environment in which creativity occurs. Researchers are beginning to investigate the ways that systems approaches can be used to develop creativity-fostering environment (Plucker, 1994, pp. 7-12). No matter how creative a person is, the domain and field of

music must allow creativity too past through.

The business of music and the creativity of musicians are two different things. Many beginner musicians do not understand that the business of music is more concerned with profits and losses than with innovation and quality. In business, one learns the formulas for pursuing success by eliminating pitfalls and using tried and tested theories. However, the business of music has no guarantees for previous formulas used by others that were successful. There is no sure way into fame and fortune. By recognizing and accepting the difficulties of breaking through, struggling to "make it" becomes part of the process.

It's hard to "make it" because the first thing is people really don't know when they're starting out the structure of the music business and the steps to take. Nobody really knows. Everybody has a general idea of what needs to be done, but they don't know the sequence of events. People will start and record a CD, print it up, and sell it, but they won't have a marketing strategy or marketing plan. People will look at a marketing plan but won't have product done. They will do a whole bunch of performances with no product, just amateur things. It comes from inexperience and lack of information sources because they are very few places you can find out step by step what needs to be done to obtain a record deal and get signed to a major label. Even then, once you get signed, are you signed to the type of label that can get you the marketing and promotion that you need? These things are paramount. (22-year old,

African-American male, Naturally-trained, Engager, Converger)

If one understands that the business of music involves many levels of luck and that each level leads to different learning experiences, then the reality of not making it could be less disappointing. "We are all creative, but often only to the extent that we are lucky" (Austin, 1978, p. xii). Austin (1978) described four types of "good luck" and personality traits required to capitalize on them (p. 203). Chance I is simple "blind" luck resulting from an accident; nothing is attributable to the individual. Chance II (serendipity) results from general exploratory behavior; chance favors those in motion. Chance III is attributed to wisdom and experience; chance favors the prepared mind. Chance IV results from personalized actions.

It's [luck] almost like the lyric by the group the 5th Dimensions [popular singing group from the 70's], "When the moon is in the seventh house and Jupiter aligns with Mars." Making it [in the music business] is almost like that song. It's like everything has to be aligned, and luck has a lot to do with it. If you were spiritual, you would call it your blessing. It's [luck] just like the music -- everything has to be in sync, in rhythm, it has to be your time. The person who's judging you might be having a bad day, and they might not see your talent for what it is. Luck and timing is everything. You just have to keep trying, because somebody somewhere is going to like it. It's all

part of the risk and attraction to the business.
(45-year old, African-American male, Naturally-trained, Engager, Accommodator)

Learning continually occurs throughout stages of life development. The learning styles and strategies that people use along the way are sometimes shaped by dramatic, fundamental changes in the way people see themselves and the world in which they live. "Learning is understood as the process of using a prior interpretation to construe a new or a revised interpretation of the meaning of one's experience in order to guide future action" (Mezirow, 1996, p. 162). As some musicians age their views of how they interpret the music business changes. The system of the music industry rarely changes, but the experiences of the musician does.

The way everything is going, especially with our community, it's so much negativity out there [in the music industry]. We've basically got just one radio station [in Tulsa], and it's just filtering all of this negativity for the kids. My kids can't even watch Black Entertainment Television (BET) because for every 40 videos they might have one that has some substance. Listen to the radio? They don't care what they play. Somebody needs to take a stand because the music that they're playing on the radio now should be underground music. Keep it underground because it's not helping any of our children. It's even more important now because all they're being spoon fed is all this negativity. You see a great video, and it's clean. You go out to buy the album for the kids, and it's all X-rated. That stuff boggles me. (33-year old,

African-American male, Naturally-trained,
Navigator, Assimilator)

The tone of the participants displayed bewilderment, confusion, and frustration when conversing about the chase of "making it big" but all of the participants are currently active in the pursuit of some type of music related careers.

The game [music business] is good, bad, and ugly. Know what you're getting into, know everything about what you're getting into, and make the choices that will save time for you. You see this [time spent trying to make in the music business] could have been cut down in five years, but I wasted a lot of time. I could have been where I needed to be five years ago, but because I took the hardheaded way out I didn't read my books. I didn't make the correct connections and I didn't take the correct advantage of my connections. Instead of spending a hour practicing on cover tunes [songs on the radio], which will only put you in a certain category, write, produce, arrange, and record. Put your composition together. Now, I don't waste time messing around.
(34-year old, African-American male,
Naturally-trained, Problem Solver)

Difficult to penetrate but rewarding to pursue was the view of the music business amongst the participants, but many believed that experience was an important factor to develop during the creative journey.

Experience

Many adult educators have emphasized the fundamental role that experience plays in learning in adulthood (Freire,

1970; Knowles, 1984; Lindeman, 1926; Mezirow, 1981). For example, one of Lindeman's (1926) four major assumptions about adult learning was that the "resource of highest value in adult education is the learner's experience" (p. 6). Experience then becomes "the adult learner's living textbook" (p. 7). Similarly, one of the major assumptions underlying Knowles's (1980) work on andragogy is that adults "accumulate an increasing reservoir of experience that becomes an increasingly rich resource for learning" (p. 44). As adults live longer, they accumulate an increasingly large volume and range of experience. Knowles also observed that adults tend to define themselves by their experience.

Many of the participants began playing music in elementary and middle school. This gave them 3-5 years of experience before entering high school and 7-9 years of experience before entering college or going out into the world of work. This experiential foundation for the creative activity provided the participants with the basic groundwork needed for future study.

The participants described experience in two categories. These are (a) learning experience, or time invested in the creative act, that was essential to develop

the characteristics of creativity and (b) creative experience, or affective intuitive awareness, that was one trait that must be learned to harness and transfer cognitive sensations during the process of developing the creative product. Learning to separate good ideas from the bad and learning by doing was expressed by the participants.

For me experience enhances creativity. It's another year of playing things and just experimenting finding out what works and what didn't work and just kind of going until you figure out why it worked. (37-year old, White male, Naturally-trained, Problem Solver, Assimilator).

What works and what does not work are similar factors that Guilford (1975) defines in creative problem solving. Guilford states that flexibility, or shifts in approaches, can be broken down further into Spontaneous Flexibility (the ability to be flexible even when it is not necessary to be so) and Adaptive Flexibility (the ability to be flexible when it is necessary as in certain types of problem solving) (p. 42), or as one participant stated, "Just kind of going until you figure out why it worked". Experience learning and trial-and-error processes are components that enhance successful directions when exploring creativity.

There are many levels of creativity. I think that

a person can have different levels of creativity based on how he's feeling and what kind of day he's having and definitely who he's with just based on my personal experience. I know that some people will pull things out of you creative-wise that you haven't experienced before. (37-year old, White male, Naturally-trained, Problem Solver, Assimilator)

Overall it's [Berklee] been a very good experience, and I've been able to take advantage of so many different things. I've explored so many different territories. I don't think other music schools are quite so well rounded.... I'm getting plenty of experience. I'm getting to the point where I'm starting to feel very confident in being able to work professionally. (21-year old, White male, Berklee-trained, Problem Solver, Assimilator)

Feeling, experience, and learning are synonymous to enhancing creativity. The artistically creative person appears to have a disposition toward intense affective experience (Gardner, 1973; Getzels & Csikszentmihalyi, 1976). Music emotions were prevalent with the participants when reflecting on their own life experiences.

Musical Emotions

If there is one thing that may characterize all highly creative people, it is the unique manner in which they apprehend the world. Alliances or misalliances between "genius" and psychosis have been noted in the literature for at least 2,300 years. One of the earliest references dates

back to Aristotle's Problemata (ca. 360 B.C.): "Those who have become eminent in philosophy, politics, poetry, and the arts have all had tendencies toward melancholia" (Glover, Ronning, & Reynolds, 1989, p. 244).

Compared with creative scientists, artists appear to be more anxious, emotionally unstable labile, and impulsive. The artistically creative person appears to have a disposition toward intense affective experience (Csikszentmihalyi & Getzel, 1973; Gardner, 1973). One probing question asked to the participants was if they thought musicians experienced extreme emotional highs and lows. Of the participants, 70% felt that musicians feel extreme emotions and that it is related to creativity.

I think that the most passionate music you write comes at those moments when you're actually at those extreme highs and extreme lows. When I'm at those points, I think that's when I'm most motivated to write, and I'm most inspired. Even if people can't interpret it [the music], you can still do things in the music that every time you hear that song again you know what you were thinking or going through when you did that. (34-year old, White male, Berklee-trained, Problem Solver, Assimilator)

Feelings do not go away; they must be acknowledged and expressed. For example, the music from Myles Horton's Highlander projects taught people to sing what they had not

learned to say. Likewise, the songs of the 60's allowed musicians to express their political feelings through the message of music. Happy music, inspirational music, heartbreak music, and educational music are expressed by musicians who at that particular moment were sharing an emotional feeling with others who were not there.

I don't necessarily feel that way myself, entangled [emotionally]. But I think that people who gravitate towards the arts, creative people with artist personalities, might have that. Yes, it ties into your writing. Sometimes it seems like I'll write songs that sound very happy and then some songs that seem very depressing. But it's more of an expression. I don't necessarily feel that way. Some kids and artist really feel. Some people write from an expression and some write from a feeling. I don't know if people with tendencies of depression or gravitated towards creativity. I don't believe that creative stuff makes people that way. Like in music history I'm studying now. It seems like all this classical guys about 50% of them ended up in mental institutions. I'm not like that, but I don't consider myself a creative genius. (21-year old, White male, Berklee-trained, Navigator, Assimilator).

Research on psychoticism which consists of traits such as aggression, aloofness, antisocial and egocentric behavior, and tough-mindedness tends to be higher in artists than in non-artists (Hammond & Edelmann, 1991; Mohan & Tiwana, 1987). Musicians and artists use emotions as part of the

expressive feeling for the creative process. Writing from expression is taking a concept and building a theme around the concept. For example, the concept of pride, the American dream, liberty, and justice would produce a theme or composition similar to "America the Beautiful" or "The Star-Spangled Banner". Writing from a feeling is taking an emotion and building a theme around the emotion. An example of this is Bob Dylan's "Hurricane", which is a song dedicated to the wrongly accused boxer Ruben "Hurricane" Carter, or "Swing Low Sweet Chariot" sung by African slaves. For the participants, musical emotions are tools to merge with the creative act. Regardless of whether the product is considered by the participants as good or bad, the musical emotion is an element of the creative process.

Some of the participants did not want to be associated with creative genius and expressed the negative labels attached to extreme creative people. The search for the real, true, authentic self can be a very long and painful one for many musicians. The pursuit of the music-dream is an anguished riddled journey that many musicians do not get past to mature emotionally. This emotional immaturity is very painful and for many devastates their attempts to find

their real selves in meaningful and consistent enough ways that foster the kind of growth and work that are required.

Creative self-expression is the only constructive means through which artists can reduce the tensions inherent in the drive state to any effective degree. Without a suitable outlet to ensure the constructive channeling of the emotional content collected from his or her reactions to the world, the artists will inevitable break down. (Beeman, 1990, p. 73)

However, those who accept the authentic self and understand that creative people are different are able to harness emotions and use them as a means of self-expression. Understanding one's authentic self eliminates the need to dissect every personal emotion that passes through the creative person's mind.

Creativity is intellectualized inspiration. In other words, you have to understand what you're feeling in order to articulate it. So a lot of the times the greater the inspiration whether it's a high or a low, the more powerful, the more potent the expression. You've got to be able to understand that. You have to be able to intellectually articulate that. Now, being able to intellectually articulate a low that's so low it's inhuman means that you've got to understand inhuman concepts. Sometimes you get stuck there. There was a time in my life when I literally had to stop.... As I was doing that, something quietly said in me, "This was the beginning of insanity".... So a lot of times musicians get in that place where they create out of that. They create a dimension. (39-year old, African-American male, Naturally-trained, Engager, Diverger)

It depends on if you can stay level headed, and that's the hardest thing to do in the industry. That's in life though! That's why you can see people in the industry killing themselves because they're sitting so high that the only place to go is down. When it starts coming down, sometimes it's too much. If you get full of yourself, [ego] which happens a lot, they start thinking that they're bigger and larger than life so when they come down, it's going to be a hard fall. (33-year old, African-American male, Naturally-trained, Navigator, Assimilator)

The participants were confident that their behaviors are different from non-creative people, but it did not mean that they have personality or mental disorders. Intellectually articulating a feeling or expression moves the emotions towards the conceptualization process to creating the product. When a musician enters the music business professionally, one's expectations receive an awakening when they realize that long term music success is not guaranteed and is hard to accomplish. Keeping a level head during this process is hard to achieve because many musicians become part of the hype and illusions of the music industry. There are many musicians who are exposed to national television with their videos being aired daily in power rotation (when the media plays music within every hour). However, their profits are re-invested back into

marketing and promotions that leave some musicians earning very little profits for their efforts. This is when the illusion of fame crumbles and drugs and alcohol can become the substitute that eases the reality.

Drugs and Alcohol

The theme of drugs and alcohol revealed by some of the participants convey depressive and gloomy emotions. In order to explore learning preferences and creative processes of adults, it is necessary to portray the participant's remarks in genuine form without selecting bias comments to support findings and conclusions (Gay, 2000, p. 381).

Altered states of consciousness on creativity are based on the premise that people usually restrict their range of awareness and that they never or seldom exploit the most potent dimensions of their minds. To remedy this supposed neglect, various practical techniques such as transcendental meditation, ingestion of drugs, or sensory deprivation have been used for expanding awareness through altered states of consciousness (Ochse, 1990, p. 16). It is apparent that throughout much of the history of civilization, some human beings knowingly have exploited alternative states as a deliberate strategy for fostering creative behavior (Glover,

Ronning, & Reynolds, 1989, p. 153). However, the comments of the participants in this study did not support this portrait of the musicians.

Of the participants 60% commented on the use of drugs and alcohol. Although 50% did not support drugs and alcohol use, 10% of the participants did support drugs and alcohol usage. The sample size of the interviewees is relatively small. Thus, the high number of responses for non-support of drugs and alcohol could suggest response effects amongst some of the participants. A response effect occurs when there is a difference between the answer given by the participant and the true answer (Borg, Gall, & Gall, 1993, p. 114). There were no relationships between creativity constructs, learning styles, learning strategies, and drugs and alcohol.

I went through my period when I went through that [extreme highs and lows]. I used to have that, but now I'm past the point of no return. That's gone. Emotionally, I'm past emotion. I've been so beat up and badgered and torn up that now I'm lucky I'm in a resting place where I know that there is nothing that you can do to me that's not happened. But when I went through that period, it made me a drug addict. Life is cruel because it's a terrible world and emotions are insignificant to me now. I'm cold and cruel now. I've eaten out of trash cans; I've done all that. I've made \$20,000.00 a day and blew \$10,000.00 a day. I've been there.

Jaco Pistora was one of the most gifted bass players in the world that I've studied, and he died on a park bench in Central Park [New York]. It goes hand-in-hand -- creativity and sometimes emotional problems. That's why I say, "Stay out of the music business. It's an occupational hazard. Leave it alone. Live your life, have a family, be normal." (42-year old, African-American male, Naturally-trained, Problem Solver, Converger)

The business of music is filled with more disappointments and broken promises than extreme successes. Some successful musicians who are thrust into fame and fortune without preparation continue to function mentally as struggling musicians. The struggling musician lives from job to job until the big break comes. In many cases, the struggling musician has not been taught how to save money, how to balance work and play, and how to prepare for when the novelty of their success wears thin. Some musicians struggle with drug use, but are considered to be the best in what they do in the field and their habits and behaviors are ignored. Flexibility, resiliency, fortitude, and the desire to create are driving forces that keep many musicians motivated to continue in the music business even when the odds and roadblocks are enormous. Although, this participant scored high on the creative scale, a participant's creativity score is not indicative of drug or alcohol abuse.

I think drugs actually do come to music in a way as far as opening your mind or making you see things from different angles. But you have to be real, real careful in making that statement especially with a young cat [person] around. You have to be really careful that they know that there is definitely a difference between drug use and drug abuse.... The abuse of it can be real ugly, and if you're anyway worried about that you're better off leaving that part of your mind closed. I can smoke a joint [marijuana] and listen to a track [music] and I hear things that I didn't hear before. I can fix things that I couldn't figure out before. I can mix [audio engineering] better smoking reefer [marijuana]. I can drink alcohol and come with better lyrics because the resting side of you tends to open up a little bit on alcohol. I actually like to smoke a joint and listen to it on the critique because it's like I get up out of this chair and go sit on the other side of the room and look back at it from the other side. It's like you're getting to see three sides of it. Straight you only see one side; at least that's the way it seems to me. I have to be real careful with this question especially with kids. The best thing that I can tell the young fellas is don't do drugs.... I don't even consider crack a drug. I consider that as something evil. You don't need crack for anything. You don't need that for anything but losing your mind. When I think drugs, all I'm talking about is reefer and alcohol that's all. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

Lombroso (1901) produced a large amount of anecdotal evidence that creative people overuse alcohol and other drugs. Other studies have also shown high rates of (a) alcoholism in creative writers (Holden, 1987), (b) positive correlations between creativity and marijuana use (Victor,

Grossman, & Eisenman, (1973), and (c) drinking to the point of drunkenness (Glover, Ronning, & Reynolds 1989; Matindale, 1972). These studies support that drugs and alcohol are a normal practice amongst some musicians. The poet, Samuel Taylor Coleridge, claimed a creative insight experience when the poem "Kubla Khan" came to him complete in an opium-induced dream and stupor (Sternberg, 1988, p. 169). Some researchers believe that LSD, cocaine and modern drugs may help and stimulate an artist. This has been the contention since time immemorial and discussed in writings since at least the 17th century (Storr 1976, p. 206). Sigmund Freud (1911) stated that:

An artist is a man who turns away from reality because he cannot come to terms with a renunciation of instinctual satisfaction which it at first demands, and who allows his erotic and ambitious wishes full play in the life of phantasy. The artist finds his way back to reality, however, from the world of phantasy by making use of special gifts to mold his phantasies into truths of a new kind, which are valued by men as precious reflections of reality (p. 65).

Some musicians claim to use alcohol and drugs as a method to unconsciously open one's mind by releasing creative ideas and finding solutions to unsolved problems. It has frequently been a matter of interest that so many

artists, people with so much talent and blessed with numerous opportunities in life, should attach to the self-destructive lifestyles which have become stereotypical of countless, celebrated writers, painters, actors, and musicians. Although cannabis may encourage the appearance of inspiration, it can also prevent constructive use of the imagination (Wilson, 1998). Unless both parts of the artistic achievement, the inspiration and the application, are extant, the experience of the journey to our creative zone has not been completed, and has not justified the cost of the fare. Creative musicians frequently provide excuses and justifications for their habits; many are articulate, intelligent, and talented, but have not learned to create with the abilities that they have and trust the products they create.

The majority of the participants did not support drug and alcohol use. The participants were critically adamant concerning creative people who use and abuse drugs and alcohol.

I've never done it [drugs and alcohol] in music that way. But I've produced with and talked to a lot of people that do, and they say it helps them think. It helps them relax enough to let themselves go probably to that high low manic

place. I've never done it, and I don't really respect it because you ain't being real with the process. If you need a foreign stimulate to get you there, then it's really a foreign stimulate that's creating--not you. You didn't get it honest. (39-year old, African-American male, Naturally-trained, Engager, Diverger)

Music is basically the bottom line release for us to do music. But some musicians tend to use alcohol and drugs to sustain us or to forget about or to even punish ourselves for not being able to punish those who hurt us. We were creative before alcohol and drugs were exposed to us. We are of the creative nature--so multiply disappointment times a hundred. That's how it effects us.

Multiply heartbreak times a hundred. Our psychological senses are like magnified a thousand times than the average person. The average person can say, "Hey I'm going to have two drinks, and I'll be fine." But the fact is that most of us are extremist. Most creative musicians and producers are extremist--I believe. We tend to overkill in mostly everything we do.... We tend to do more than what we should. (34-year old, African-American male, Naturally-trained, Problem Solver, Diverger)

The participants collectively define musicians' drug and alcohol use as a temporary creative means to escape chaotic life-issues while following a negative design that other professional musicians have created. The participants that did not support drugs and alcohol had a realistic balance and awareness of (a) knowing that musicians have extra sensitivity to certain emotions, (b) recognizing that an altered state of consciousness induced by drugs and alcohol

was not real creativity, (c) understanding that alcohol and drug use is characteristic of the music domain but not necessary to indulge in order to participate, (d) and knowing that life issues create depressive circumstances that promote drugs and alcohol usage. Beneath the self-awareness of knowing where they are and knowing who they are, these participants had strong underlining value-systems that were learned somewhere along the developmental creative process. The participant's value-systems supported the need for making the right choices and understanding the consequences of the wrong choices in the fast-paced profession of the music industry. Positive values link family and supportive relationships back into creative learning.

It all kind of deals with your foundation as a person. Who you are. Your upbringing. How you were raised. Your values. It kind of starts there, and I believe that it's so true that parenting is such an important tool for young people to grow up healthy, wise, smart, and intelligent. You have to give kids a foundation to work with when you're not around because if you don't give them that, they will fall for anything. They'll be led by anyone. They will end up doing things that they thought they'd never do. For me drugs wasn't an alternative; alcohol wasn't an alternative. When I was on my own, drinking and drugs wasn't something that I needed to do or had to do to feel included or feel to be a part of the gang....I didn't need

drinking and drugs. I do agree that many people find drugs and alcohol a crutch and feel that they're more creative and able to come up with ideas and processes that they normally would not. Some people think that marijuana frees them to do that. I know many great artists who have drank themselves to death. They laid down some heavy music, but they drank themselves to death during the process. (55-year old, African-American male, Naturally-trained, Problem Solver, Diverger)

Creativity cannot be learned without a supportive environment to teach basic characteristics of success. The participants expressed the need for having positive values that lead to making the right choices. The relationship between family support and alcohol and drug use is clearly identifiable with the participants in this study. Those participants that supported alcohol and drug use did not mention family values, ethics, or standards, but the participants that did not support alcohol and drugs expressed their comments by an underlining fundamental value-system. Pursuing a professional career and any competitive field is frustrating, emotional, and sometimes depressing. Yet, many musicians continue to make the decision to pursue music professionally.

The Decision

Beyond intelligence and other abilities, creativity

appears to be in large part a conscious decision (Sternberg, 1999, p. 362). Although creative people differ in an astonishing number of ways, the one key attribute they all possess is the decision to be creative. People who create decide that they will forge their own path and follow it for better or for worse. The path is a difficult one because people who defy convention often are not rewarded. For creativity to occur, it must be preceded by a personal decision to think and act creatively with all the risks attendant on doing so (Sternberg, 2002, p. 376).

The music game is not cut out for everybody because there is going to be ups and downs and disappointments, but I think when you have a love for music, when you have a love for creativity, when you have a love for the art form, then it really doesn't matter to you. You don't even think; you cast your fate to the wind. You cast all caution to the wind, and you just go out and do it. You are really not concerned with what people say. That's the good part about being a young musician and about being a young human being in that you're not concerned with the opinion of other folks. Some folks go into it, and they make it [professionally]. Some don't, but you just let the chips fall where they may. I never for one minute regretted anything that I've done. I think it all chalks up and adds to experience. (49-year old, African-American male, Naturally-trained, Navigator, Assimilator)

"Taking affective pleasure in challenge and being intrinsically motivated results in an increased sensitivity

to problems and problem finding" (Feist, 1999, p. 288). Disappointments and roadblocks are associated with internal drive and perseverance. Both are needed to develop successful experiences to continue forward towards one's dreams and goals. Without disappointments and roadblocks, one will not learn to succeed and generate new alternatives to explore. Love and passion are dominate traits in creative people, but love and passion without learning practical experience returns musicians back to unsuccessful choices. Some young musicians take high risks without reflecting on consequences when love and passion are the driving force behind the music. However, as musicians mature and acquire responsibilities "casting one's fate to the wind" is impractical, unrealistic, and sometimes irresponsible. Older musicians do not regret the mistakes that they made, but they also reflect on where they could have been if the right choices were made.

I think it's hard to make it [professionally], but I tend to have a philosophy of it's what you make of it in the industry and in life in general. It's tough to start a pizza shop too. It's tough to do anything. It's tough to start a department store. It's tough to be a professional baseball player. Everything's tough. It's definitely a competitive industry....If someone can do it, then obviously so can others. I watch a lot of inspirational

things--interviews with celebrities, political people, and artists. Everybody tells them that it's too difficult, and then they go out and do it. Obviously that's not "possible". It's not theoretical impossible. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

The pre-adult era is a time of extraordinary growth but it is only an introduction to adult living. Within this era, there is a basic sequence of change, exploring possibilities, and imagining oneself as a participant in the world (Levinson, 1978, p. 21). The young person has two primary yet opposing tasks:

(a) To explore the possibilities for adult living: to keep one's options open, avoid strong commitments and maximize the alternative. This task is reflected in a sense of adventure and wonderment, a wish to seek out all the treasures of the new world one is entering. (b) The contrasting task is to create a stable life structure: become more responsible and "make something of one's life." (p. 58)

"I can do anything alone" was the tone of some of the participants who were beginning music careers and had not yet experienced the reality of a profession they were about to enter. The theory of music success is understood and embedded in the young musician's design. The "Dream" can be momentum that pushes the musician to success, but it can also be the poison that produces an extended vision of an

unrealistic ambition.

Creative individuals often balance high levels of intrinsic motivation with a desire for recognition. The creative individual will be identified as creative by virtue of being so labeled by others. To achieve such a label, the person must seek it and do what is necessary in order to achieve it (Sternberg, 1988, p. 145). Public recognition and acclaim are certainly not necessary to truly creative people, yet they are not rejected either. Being at the cutting edge isolates a person from people, and it helps to feel appreciated (Csikszentmihalyi, 1996, p. 335).

It's [music] something that you love to do and you want to make your name in this [business]. You feel like you're good enough to put your stamp on it. You want to get in the door....The main thing is that you want to be recognized and noticed as somebody that made their stamp and had a place in whatever it is they're doing. Whether it's the music industry, playing basketball or whatever. Even though you know it's a longshot, you just keep plugging away. If you stay in it long enough, you say, "We've did this, we've did that, and I just ain't got nothing to show for it." How do I get to the point where I want to get? I think a lot of it just comes down to how much do you understand the music business. Are you able to get enough out of the heartaches and hardships and learn enough to actually have enough will left to make something out of what you know now? (33-year old, African-American male, Naturally-trained, Navigator, Assimilator)

One common trait amongst the participants was the intense motivation to succeed with music and endure the obstacles. Motivation had different stages for the participants that grew and evolved with their musical life experiences. The majority of the young musicians had different motivational drives than musicians who had family and financial responsibilities. What both groups had in common was the intense motivation to pursue a life with music. However, the major focus of some of the young participants was to "make it big" while the focus of many of the experienced musicians was to keep the Dream alive.

Honestly what I'd like to do is first is get a record deal to get my feet wet there, and if that doesn't work out, Plan B is to go into music production. You definitely need a Plan B. First of all, the music business is the worst Plan A to have anyway because statistically the very few make it in. Very few get heard, very few get seen. So Plan B is always something that you can count on. Actually, Plan B is going to be your tangible option. Plan A is your dream; Plan B is the more solid fallback plan. I may not be able to make it as a superstar writing, being on television, but I know I can make it by selling music because there is always someone who wants to do what I wanted to do and someone who wants to be a superstar, and they are willing to pay. So it's a little bit more solid. (22-year old, African-American male, Naturally-trained, Engager, Converger)

One factor that plays a powerful and pervasive role in

early adulthood is "the Dream". Many young adults have a Dream of the kind of life they want to lead as adults (Levinson, 1978, p. 91). The Dream is a vague sense of how young adults view themselves in the adult world. "It has the quality of a vision, an imagined possibility that generates excitement and vitality. At the start it is poorly articulated and only tenuously connected to reality" (p. 91). The main focus of some of the young participants was to "make it big". Thus, a young musician's Plan-B is sometimes a camouflaged Plan-A that is just as difficult to accomplish, uses the same experts in the field to recognize originally, and takes the same amount of time invested. Levinson (1978) defines four major tasks of the novice phase as young adults move through adult transitions: (a) forming a Dream and giving it a place in the life structure; (b) forming a mentor relationships; (c) forming an occupation; and (d) forming love relationships, marriage, and family (p. 90). Many young musicians make career decisions in the Dream stage and have not yet reached the other major tasks, as defined by Levinson, of adult transitions.

It's my purpose to record and play and be who I am, and I don't want to be found not doing that. I've recorded five albums, but as I'm getting

older my hunger and thirst for music is changing because the rules to the game changes once you get married, for good, bad, and indifferent. If you're single, you only have to worry about yourself. If you do get a record deal, you only have to worry about how you feel about it. Once you marry, whether your wife is in your corner or whether she's your adversary, she's always going to look at what you do in light of how she feels about it. I'm not saying it's bad, but it's a very real thing because it does change things. For me, the fortunate thing is my wife's father was a jazz trumpet player. So right from the beginning there was an understanding. She saw him kind of give up on his dream [pursuit of his musical career], but he never put his horn down. Sometimes I just want to pay to play because I enjoy it, but because I'm in a relationship, I can't always do what I want to do the way I want to do it. Relationships have killed many musicians. We have this American thing like they want their husband or wife to get a "real job". If I ever heard that word "real job" again...What is a "real job"? A job is a job. If you're walking around Central Park with a stick picking up trash, that's a job. It's a real job. (37-year old, African-American male, Naturally-trained, Engager, Diverger)

The musicians in this study with more life experiences discovered that as one gets older, goals and Dreams must change. "During the Age Thirty Transition, the provisional, exploratory quality of the 20's is ending and one has a sense of greater urgency. Life is becoming more serious, more restrictive, more for real" (Levinson, 1978, p. 85). Many of the experienced participants with families and responsibilities understood the need for altering the

pursuit of music success. Finding a new way to satisfy passions of music was difficult, but many of the participants accepted where they were and used the best available means to fulfill their needs.

Storr (1988) believes that major creativity is incompatible with normal family life. "The higher reaches of abstraction demand long-periods of solitude and intense concentration which are hard to find if one is subject to the emotional demands of a spouse (husband or wife) and children" (p. 166). However, creative masters such as Einstein, Freud, Gandhi, and Picasso did have wives and children. Their relationships to their families, however, entailed problems. Einstein, for example, was quite happy to be on his own from earliest life and did not crave companionship. It is well known that Gandhi had poor relations with his wife and children and that Freud went through some periods of sharp loneliness, especially preceding his major breakthroughs (Gardner, 1993, p. 103). The married participants in this study continued to be involved in music, but how they were involved was drastically different from the way they originally began. For instance, one participant began as a solo singer in Los

Angeles but now is a minister who directs his choir in Tulsa, Oklahoma. Another participant was in a band that toured the country, but was unexpectedly left with raising 3 daughters alone; he now mentors to teens through basketball and music. When the Dream is not reached, the reality of responsibilities, needs of others, and financial security becomes prevalent to many experienced musicians. One has the choice of moving on or to continue holding on to enough of the Dream for inner peace and fulfilment.

Traits of Creativity

Inspiration

A popular held conception of the creative process, which originated centuries ago and common to many cultures, was that the creating person was in a sort of trance caused by the visitation of the Muse (being filled with the creative spirit by the Gods) (Piirto, 1998, p. 44). Social scientists have established concepts about the ever-pyramiding structure of human psychological needs and drives. These drives are inherent in every human being, but quantitatively they appear to be more forceful in certain individuals (Beeman, 1990, p. 4). In the participants, the creative drive was intense and had the common theme of them

being drawn to it. There was a feeling of something that takes you there. This drive to create or the undefinable word that symbolizes "something from within" influences the artist to begin the creative process.

The funny thing about me is when I write it's either I feel it or I don't. Or, either I hear it and it just comes, or I don't hear it. It's just an impulse an urge. It's a feeling that takes you to the keyboard, and I begin to write. It can be night or day, but it's just a feeling that you've got to go and write something. (49-year old, African-American male, Naturally-trained, Navigator, Assimilator)

When I sit down at the keyboard, it's usually just idle time. I very rarely sit down at the keyboard thinking of an idea like, "I'm going to write this". I usually just sit there because I'm drawn to it, and I just start playing and see what happens. But I've never had success with thinking of a tune or thinking that I want this, like this, and trying to do it like that. It just never comes out right. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

The creative work itself becomes the method through which the creative person attempts to find and maintain one's inner psychological balance (Beeman, 1990, p. 40). The participants expressed creating as a part of themselves, an urge to speak a language of music that expressed how they felt and what they were thinking at that moment of time. Their affective awareness was also a driving force that

contributed to the music creation and took them into an undefinable place to create.

Writing [songs] gives me a chance to express myself through sound. A lot of times there are things you can't say that you can say through your music. Many times when you have problems expressing certain things a certain way, you can put a song together in a certain way that will kind of speak for you. (22-year old, African-American male, Naturally-trained, Engager, Converger)

I can be sitting here talking to you, and I'll get a melody or inspiration or something will happen. The only way that I can express it is musically. The inspiration happens differently, but the process of music is pretty much the same. I go to the studio and sit down at the keyboard and work the emotion out from the keyboard or on the drum machine. Then I put it together, and then I begin to really define the feeling lyrically. That's where I put my most real feeling, my most intimate feelings. I put it into music. Recently my father died. I haven't written that because I haven't really identified the emotions. There's so many of them I haven't really identified them, but trust me when it's time for me to really deal with that...I deal with it through that "thing". I put it on a record, and I get it out of my system. When I want to feel that again, I go back to that song. (39-year old, African-American male, Naturally-trained, Engager, Diverger)

The process is motivated by a situation. A lot of times I have this creative energy--I can't explain it. It's almost like a runner that has to run to release something, endorphin or whatever. I have to go and create a song. It just something that's in me that has to come out. Then I go and start messing around on the keyboard. Then I start trying to reflect on what I'm feeling at the time.

Then I try and get the music to match what I'm feeling. Once I get the music to match what I'm feeling, sometimes the words might not come until later because there are no words that can match that feeling. So it'll come later on. The music takes you somewhere, and then you have to sort of have to go with it. When it takes you there, you really kind of have to let it have its way. Then sooner or later you're start becoming one with this process -- this whole sound, the emotion and everything. (45-year old, African-American male, Naturally-trained, Engager, Accommodator)

The inspiration and musical emotions themes have integrated into one. The musical emotion is the essence of inspiration that sets the musical idea or Muse into motion. The participants, both Naturally-trained and Berklee-trained, have naturally learned to use emotion as a form of self-expression through music. The process is the same; the drive to creative inspires the musician to go to the instrument, and the musician waits for the creativity to begin the self-expression. Once inspirational self-expression begins, a filtering process begins to discriminate the ideas worthy of elaboration.

Filtering

Of the participants, 55% used a type of brainstorming to generate ideas. Brainstorming is a technique that uses cross stimulation and suspended judgement to generate new

ideas (De Bono, 1970, p. 150). Osborn (1953) conceptualized the technique of brainstorming to encourage people to solve problems creatively by seeking many possible solutions in an atmosphere that is constructive rather than critical and inhibitory. One allows ideas to enter the mind without judgement. After all ideas have been exhausted, each idea is evaluated constructively for further elaboration. This process allows the discovery of ideas that would not be let through under normal constricted circumstances. The participants emptied their minds first until that "right-feeling" identified the originality and substance of the new creation.

They [musical ideas] start coming right away, but I just sit there and try to relax and play anything. Sometimes I find a nice motif. Then I can use that and try to develop it. (27-year old, Asian male, Berklee-trained, Problem Solver, Accommodator)

I often get lots of ideas at one time. Lots of times I try to just put everything out there the as best as I can and then, like an English paper, go back and edit things and take things out that don't need to be there. (21-year old, White male, Berklee-trained, Problem Solver, Assimilator)

I get a lot of ideas, but I don't throw anything away. I write everything down, all the ideas. Sometimes I use a tape recorder and just let it run. One idea might come and never come back anymore, and I might forget it because I might not

be feeling like that anymore. So I'll let the tape run and capture anything that comes out. (45-year old, African-American male, Naturally-trained, Engager, Accommodator)

Creative people not only generate a lot of ideas but also analyze those ideas and discriminate between their best and their worst ideas (Csikszentmihalyi, 1996, p. 80). When creating something worth exploring, all of the participants described the selection of good ideas over bad ideas during creative process as an internal feeling.

I don't know. It's just a good instinct. It's something that, it's really a feeling to me. It's a feeling, and if I can feel it and hear it, then I can pretty much tell that's it's working....It's an internal feeling. (49-year old, African-American male, Naturally-trained, Navigator, Assimilator)

I just like the way it sounds. Just an internal feeling. (20-year old, White male, Berklee-trained, Engager, Accommodator)

I just feel it, and I like it. (27-year old, Asian male, Berklee-trained, Problem Solver, Accommodator)

That's a good question because I've been asking myself that question. It's hard to say. When you write, you just sort of realize that it's an instinctual thing. I sort of feel like, "Oh! That's it." If you're going through ideas and you're trying different chords and you hear the one that's good, then you say, "That's it!" It sort of leaps out of you. It's something internal. (21-year old, White male, Berklee-trained, Navigator, Assimilator)

The creative process has traditionally been described as taking five steps: immersion, incubation, insight, evaluation, and elaboration (Csikszentmihaly, 1996, pp. 79-83). The fourth component evaluation is when the person must decide whether the insight is valuable and worth pursuing (p. 80). Individuals who keep doing creative work are those who succeed in internalizing the field's criteria of judgment to the extent that they can give feedback to themselves without having to wait to hear from experts (p. 116). When asked to elaborate more on describing how they recognize good material by a "feeling", the participants could not find any other word to describe the evaluation process.

The Creative Environment

Concentration is not so much something done to prevent distraction and interruption as it is something done to overcome distraction and interruption when they occur. The secret of efficient thinkers is not that they experience fewer distractions but that they have learned to deal with them more quickly and more effectively than inefficient thinkers do (Ruggiero, 1998, p. 10). There was a relationship between the participant's age and needing a

creative environment. Of the participants, the need for a creative environment was as follows: 11.1% for the 20-28 age group, 33.3% for the 29-39 age group, and 55.6% for the 40-55 age group. There was also a relationship between the participant's age and needing concentration for the creative process. Of the participants, the need for concentration was as follows: 22.2% for the 20-28 age group, 33.3% for the 29-39 age group, and 44.4% for the 40-55 age group. The progression clearly shows that as the participants become older, (a) responsibilities other than music demand attention and (b) a creative environment is needed to complete the creative process. These participants express how they deal with distractions and interruptions.

I think that's a bad recording studio [when you have interruptions]. That's why I went through the trouble I went through to build my own. I think when you go into the studio, the phones have got to come off and all of that other stuff has got to go. I don't like the studios where a bunch of musicians are running in and out. Interruptions and music don't go together. The minute you lose your vibe [inspiration], you're done. You should just cut the session and go home right then. I'm not with people coming in and out of the studio while you're working. Focus and concentration is everything to me. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

Not good [interruptions and distractions]. It's not good because it takes you so long to get that

vibe [inspiration]. Once you're interrupted, there's no way to get that particular vibe back. You might get another one, but you're not going to get that one. So I don't even tell people I'm going to the studio when I go because I'm nude when I'm creating. Sometimes I think I've got a big one [hit song]. Other times, I don't feel like I've got a big one. I don't want anybody in there with me when I'm going through my phase. When I get ready to go in the studio, I usually go in where I know I don't have anything else to do after that. (39-year old, African-American male, Naturally-trained, Engager, Diverger)

Creating music requires full concentration and unlimited time to create for inspiration to materialize. Creative inspiration is not planned. Thus, the musician must be ready when it comes because that particular insight only comes once; if the musician is not ready, the idea is lost. Creativity for the participants was not a business; it was very personal. The participants that owned recording studios recognized that they cannot have people coming in and out of the studio or telephones ringing. "Everything that matters in our intellectual and moral life begins with an individual confronting his own mind and conscience in a room by himself" (Schlesinger, 1960, p. 103). The participants learned from their experiences that inspiration and interruptions do not mix. The creator is frequently apart and withdrawn even in the presence of others and makes a

deliberate attempt to seek solitude.

There are many creative persons who are inspired by the presence of others during the creative activity. However, the participants learned to maneuver and harness creativity to where it is most productive -- in a quiet place. Interruptions and distractions are two of the major enemies of creative thinking (Ochse, 1990, p. 170). Family time, leisure time, and creative time are all interconnected and part of the creation process, but some of the participants accepted and understood their family commitments.

Most of the time when I write, with the kids I have to write at night. I have to write when they're asleep. There's no way I can write during the course of the day. You know the older you get the harder it gets. So I'm so anxious to sit down and write....So the biggest deal is just getting away and doing it while they're asleep. I try to make it where I don't get distracted. (33-year old, African-American male, Naturally-trained, Navigator, Assimilator)

Kids just have a way when you want to get focused they will try to distract you. You see a distraction and a diversion is something completely different. I know how to deal with distractions. Certain distractions you deal with. Now a diversion is when someone is intentionally doing something to steer me left or right. That's a whole different story. But distractions come but they are a part of life, and you've got to know how to deal with them. (33-year old, African-American male, Naturally-trained, Navigator, Diverger)

The married participants with children accepted their family roles and changed how they approached and participated in the creative activity. Total immersion into the creative activity was no longer realistic, but time was more controlled and planned. Some of the married participants had to wait until the kids where asleep or at school, but other participants learned to function and produce with family members present. No matter how the creative process was conducted, isolation and solitude existed whether in a closed room or a closed mind.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS: LEARNING STYLES AND LEARNING STRATEGIES

Summary of the Study

The principles and assumptions of Malcolm Knowle's adult learning principles coincide with the widely-held definitions of creativity: something that is new, original, and useful. Knowles recognized the need for something new, original, and useful, and his assumptions of adult learning developed into expanded practices and theories of adult education.

Approximately 50 years ago, Guilford (1950) revived interest in what was then the neglected field of creativity research by offering a compelling rationale and research agenda. Guilford almost single-handedly created psychometric interest in the study of creativity.

How to study creativity is one of the most debatable issues by experts in the field. Creativity research approaches include psychometric, experimental, biographical, biological, computational, and contextual. The three most widely used approaches are psychometric, experimental, and biographical. Biographical researchers rely on qualitative

descriptions or on quantitative measurements. Biographical approaches to the study of creativity are based on examining and analyzing the events in the life of creative people. The fundamental perspective is that creativity is a life story. This biographical study used psychometric, quantitative, and qualitative methods.

Creativity is among the most complex of human behaviors. It is influenced by a wide display of developmental, social, and educational experiences, and it is visible in different ways and different domains. The highest achievements in the arts are characterized by their creativity. The domain of music was selected for this study to explore creativity themes musicians use when learning music.

Music educators have focused on a variety of musical skills. Some music schools have discovered how to design new courses from traditional methods. Berklee College of Music is considered one of the best music schools in the country and offers many versatile approaches to learning music. Berklee College of Music is the world's largest independent music college for the study of contemporary music.

Learning styles refers to how people perceive and

process information. David Kolb, creator of the Learning Style Inventory (LSI), believes that effective learning entails the possession of four different abilities, as indicated on each pole of their model: Concrete experience abilities, reflective observation abilities, abstract conceptualization abilities, and active experimentation abilities. As a result he developed a learning style inventory which was designed to place people on a line between concrete experience and abstract conceptualization and on another line between active experimentation and reflective observation. Kolb proceeded to identify four basic learning styles: Assimilator, Converger, Diverger, and Accommodator.

Learning strategies refer to how people approach specific learning situations by using external behaviors developed through learning experiences. The learner then elects to use these experiences in order to accomplish the learning activity. The three learning strategy groups are, Navigators, Problem Solvers, and Engagers have been identified and the distribution among the three groups is relatively equal.

Music is learned in different formats. Some learn music

in formal programs while others are self-taught. Berklee College of Music teaches music from a definitive design of formal music study, but Naturally-trained musicians learn from informal and self-directed methods. Although educators have investigated many areas of learning, they have not explored creativity, learning styles, and learning strategies of those enrolled in formal programs and Naturally-trained musicians.

Purpose

Therefore, the purpose of this study was to describe the learning strategies and learning styles of musicians, Traditionally and Naturally-trained, and to explore the relationships of creativity with music learning. This was accomplished by identifying levels of creativity as indicated by measuring learning styles and learning strategies of 109 students enrolled at Berklee's College of Music and 30 Naturally-trained musicians in Tulsa, Oklahoma. The Learning-Style Inventory (LSI) was used to measure learning styles, Assessing the Learning Strategies of Adults (ATLAS) was used to identify learning strategy preferences, and a 16-question survey was used to identify levels of creativity with musicians. These indicators of individual

differences were profiled and compared to demographic factors in the learning process.

Design

This study utilized a descriptive research design. This study investigated perceptions of creativity, learning strategies, and learning styles that adults use while studying music.

Summary of Findings

Demographics

Descriptive statistics were used to explore learning styles, learning strategies, and levels of creativity. For this study, measures of frequency, measures of central tendency, measures of variability, and measures of relationship were used to characterize the musicians.

Descriptive statistics were used to describe the demographic variables of the musicians. The following summary characterizes the demographics of the musicians in this study:

- (a) The Berklee-trained group was larger than the Naturally-trained group and represented 78.26% of the sample;
- (b) Of the overall group, slightly over 66% were males, and almost 25% were females;
- (c) The Berklee-trained group was younger than the Naturally-trained group. The Berklee-trained group's

median age was 22. The Naturally-trained group's median age was 35;

- (d) Of the overall group, slightly over 50% were white; 25% were African-Americans; and Hispanics, Asians, and Others made up approximately the remaining 25% of the group. The Berklee-trained respondents were predominantly African-Americans.

Learning Style Preferences

The first research question explored the learning style preferences of musicians at Berklee College of Music and Naturally-trained musicians in Tulsa, Oklahoma. For all respondents in this study, the Divergers were the largest group. The Assimilators and Accommodators were almost evenly distributed, and the Convergers were the smallest group. The distribution of the 109 Berklee-trained respondents mirrored that of the overall group with the Divergers as the largest group, the Accommodators and Assimilators almost evenly distributed, and the Convergers as the smallest group.

However, the 30 Naturally-trained respondents were distributed somewhat differently. While the Divergers were the largest group with a representation almost the same as for the Berklee-trained group, the Assimilator group was much larger than for the Berklee-trained group. While the Converger group was the smallest for both the Berklee-

trained and Naturally-trained group, there were as many Accommodators as Convergers in the Naturally-trained group.

Two composite scores are produced from the Learning Style Inventory results. These are constructed by combining the Abstract Conceptualization and the Concrete Experience (ACCE) scores and the Active Experimentation and Reflective Observation (AERO) scores. In this study, the ACCE mean for all respondents was 1.36, and the ACCE scores ranged from -26 to +31 with more than half of the scores closer to the Concrete Experience end of the grid. The ACCE individual scores for the Berklee-trained respondents were similar to those of the total group with more than two-thirds scoring in the -26 to +4 range and the remaining one-third scoring in the 5 to 31 range. The Naturally-trained respondent's ACCE scores were different. Approximately half of the respondents scored in the -26 to +4 range and a little under one-half scored in the 5 to 31 range.

The AERO mean was 2.08 which is on the Reflective Observation side of the scale. The AERO scores for the overall group of respondents ranged from -26 to +31. The AERO individual scores for the Berklee-trained respondents were similar to the overall group with over one-half scoring

in the -26 to +5 range and a little over one-third scoring in the 6 to 33 range. The Naturally-trained respondents AERO scores were similar with almost three-fourths of the respondents scoring in the -26 to +5 range and slightly over one-fourth scoring in the 5 to 31 range.

Learning Strategy Preferences

The second research question investigated the learning strategy preferences of musicians at Berklee College of Music and Naturally-trained musicians in Tulsa, Oklahoma. The three learning strategies preferences groups identified by Assessing The Learning Strategies of Adults (ATLAS) are Navigators, Problem Solvers, and Engagers. For the 130 respondents who completed ATLAS, the Engagers were the largest group. The Navigators and Problem Solvers were almost evenly distributed. The distribution of the 102 Berklee-trained respondents almost mirrored that of the overall group with the Engagers as the largest group and the Navigators and Problem Solvers both evenly distributed. However, the 28 Naturally-trained respondents were distributed differently. The Navigators, Problem Solvers, and Engagers were almost evenly distributed.

Of all respondents, 88.8% reported that ATLAS accuracy

described their learning strategy. The rate was higher for Naturally-trained group (100%) than for the Berklee-trained group (85.7%). This findings of ATLAS accuracy is consistent with other findings for ATLAS (Ghost Bear, 2001; James, 2000; Willyard, 2000).

Learning Strategy Comparisons

The third research question examined how learning strategy preferences of Naturally-trained and Berklee-trained musicians compared to the norms of ATLAS. When the overall group was compared to the norms of ATLAS, the observed distribution for all respondents was significantly different from the expected distribution. Navigators were under-represented by 20%. Problem Solvers were under-represented by 10.2%. Engagers were over-represented by 33.2%. However, because of the differences in the size of the groups, each group was also compared separately to the norms of ATLAS. When the groups were compared to the norms for ATLAS separately, different results were found. Like the overall group of which it made up over three-fourths, the observed distribution for the Berklee-trained respondents was also significantly different form the expected distribution. Navigators were under-represented by 24.7%.

Problem Solvers were under-represented by 13%. Engagers were over-represented by 42%. However, the Naturally-trained respondent's groups were not different from the expected distribution.

Learning Style and Strategy Interactions

The fourth research questions probed the interaction between learning styles and learning strategies. There was a significant difference between ATLAS and the LSI group placement for the overall group. There was also a significant difference between ATLAS and the LSI for the Berklee-trained group. The analysis illustrates (a) that Engagers are not likely to be Assimilators and (b) that the Navigators and Problem Solvers are more likely to be Assimilators. The Engagers were associated with the Accommodators. There was no significant difference for the Naturally-trained respondents.

Further analysis was conducted to test the relationship between learning styles and learning strategies. For this analysis, the participants were grouped according to their learning strategy preference of either Navigators, Problem Solvers, or Engagers. There was no significant difference between the scores for the AERO. However, there was a

significant difference between the three ATLAS groups and the ACCE scores.

On the Scheffé test for the total group, the Navigators and the Problem Solvers formed one group while the Engagers formed another. Likewise, for the Berklee-trained group, the Navigators and Problem Solvers were in one group while the Engagers were in another. However, there were no significant differences for the Naturally-trained group. The ACCE mean scores for the Navigators and Problem Solvers placed them on the "thinking" side of the scale while the mean score for the Engagers placed them on the "feeling" side of the scale. That is, Navigators and Problem Solvers not only initiate a learning activity in the cognitive domain but also have a learning style based on "thinking". Likewise, the Engagers not only initiate a learning activity in the affective domain but also have a learning style based on "feeling".

Learning Styles and Strategy Interactions with Creativity

The fifth and sixth research question examined creativity profiles and how learning styles, learning strategies, and creativity concepts interact. The creativity survey consisted of 16 multiple-choice items with 3 options. One option was consistent with the literature while the

other two options were not. Therefore, an overall creativity score, which consisted of the number of right answers to each item on the creativity survey, was created.

The relationship between the Berklee and Naturally-trained groups were compared by using the creativity scores. The participants were placed in these two groups to see if differences of creativity existed. There was a significant difference in levels of creativity between the Berklee and Naturally-trained respondents.

The relationship between learning strategies and creativity was examined. There were no significant differences between the learning strategy preference groups base on creativity scores. An individual's level of creativity had no significant relationship to one's learning strategy group; one learning strategy group was no more creative than the others.

There were no significant differences between the overall learning style groups and creativity scores. There also were no significant differences for the Berklee-trained group and creativity scores. The Naturally-trained group was consistent with the other groups with no significant differences between creativity scores. Thus, an individual's

level of creativity had no significant relationship to one's learning style group; one learning style group was no more creative than the others.

Learning Preference Groups and Creativity Responses

The seventh research question explored if groups existed among the musicians based upon their learning style, learning strategy preferences, while examining their creativity responses. Cluster analysis was used to explore for groups amongst the musicians based on the interaction of learning style, demographic variables, and creativity level. In order to find the differences among the groups produced by the cluster analysis, discriminate analysis was used to describe the process that separated the various clusters into distinct groups. In these analyses, the continuous learning style scores of ACCE and AERO were used. Because learning strategy preferences were categorical and showed no relationships in the multivariate analysis, they were not included in the cluster analysis.

The respondents divided into four clusters. The 134 participants in the analysis were clustered into groups of 46, 34, 27, and 27. Three separate discriminate analysis were conducted to identify the process that separated the

groups. The structure matrix revealed that the prime item separating the groups was the ACCE score on how they perceived information in a learning activity.

The group of 73 was made up of two groups. One group contained 46 while the other had 27. The structure matrix revealed that the differences between the groups were attributed to the AERO and ACCE scores. The groups differed in the extremes of feeling about the learning task and in how they process information in the learning task.

The group of 61 was made up of two groups. One group contained 34 while the other had 27. The structure matrix revealed that the differences between the groups were attributed to the AERO scores. The groups differed in the extremes of feeling about the learning task and in how they process information in the learning task.

Since musicians were used to from the groups, the four groups have tentatively been named after well-know musicians. The group of 27 that perceived information by feeling and that was most passionate can be represented by Elvis Presley. The group of 46 that perceived information with feeling but that is moderate in watching can be represented by Willie Nelson. The group of 27 that perceived

information by thinking and was the most intense can be represented by Johann Sebastian Bach. The final group of 34 that perceived information with thinking but that was moderate in doing can be represented by Bob Dylan.

Learning Styles

Conclusions

The Diverger learning style category is compatible with the characteristics needed for musicians.

All four learning style groups of Convergers, Assimilators, Divergers, and Accommodators, as identified by the LSI, are represented in the sample of Berklee-trained and Naturally-trained musicians. However, the Divergers were the majority learning style amongst the respondents in this study, and the majority of the learners were on the Abstract Conceptualization and Reflective Observation side of the inventory grid. The majority of musicians preferred learning situations which enabled them to immerse themselves in new experiences and preferred to process new information by watching.

Some creativity experts suggest that many attributes of creative cognition is related to divergent thinking (Guilford, 1967). The association with arts and humanities

is characteristic of the Divergers, and imaginative reflection is a prerequisite for acquiring music improvisational proficiency. The imaginative ability and sensitivity to feelings are needed for effectiveness in arts and entertainment (Kolb, 1999, p. 5). The Diverger considers situations from different perspectives and diverges from conventional solutions by coming up with alternative possibilities. Composers and improvisational musicians live in a world of expressive discovery that is sensitive to internal feelings used to create new and original ideas. Mozart was able to hear and capture music inspired by his creative spirit and write it down without revisions, while Beethoven had to work harder to perfect his inspirations. The consummate performer, writer, and music producer uses these characteristics to begin and complete the creative work.

The Divergers were also the majority group for the Naturally-trained group. However, the Naturally-trained group had more Assimilators, and the Accommodators and Convergers were evenly distributed. One may begin a learning process in any of the four phases of the LSI learning cycle. By using a well-rounded learning process, ideally one would

cycle though all four phases (Kolb, 1999, p. 4). People learn from all four learning-style-experiences (LSI quadrants), but one learning-style-experience (quadrant) is selected as a favorite. This taking in and dealing with one's experiences expands potential to completely engage in the learning process. Nevertheless, if taking in and dealing with experiences expands throughout one's developmental life-course, then shifts from one LSI category to another are highly possible. For example, a 22-year-old musician with limited life experiences could possess the characteristics of a Diverger, but as one matures and takes in more learning experiences and responsibilities, the characteristics of how to deal with the experiences might change. Life structure and experience can be considered in terms of three perspectives: (a) as the sociocultural world imposes upon people it has meaning and consequences to them, (b) some aspects of their selves are lived out; others aspects are inhibited or neglected, and (c) a person's participation in the world involves transactions between self and world (Levinson, 1978, pp. 42-43). Thus, because of these perspectives one could easily move from the intense/passionate Diverger-performer to the

intense/passionate Assimilator-songwriter. Each LSI group is represented within the domain of music, but the processing and perceiving of information are related to the musician's placement in the developmental life-course during the learning activity.

Recommendations for Learning Styles

Instruction in learning style concepts and techniques should be included in training programs for educators, administrators, and program planners in music schools such as Berklee College of Music.

Instruction in learning style concepts should be given to all students at Berklee College of Music at the beginning of their first semester.

Naturally-trained musicians should be exposed to different learning styles to recognize and identify their learning habits.

The literature describing cognitive style and learning style is rather confusing; some authors use the two terms interchangeably (Tennant, 1988; Toye, 1989), others view cognitive style as the more encompassing term (Kirby, 1979), and still others see learning style as the more inclusive term (Hiemstra & Sisco, 1990). Clearly there is no common definition of learning style nor is there a unified theory on which this work is based (Bonham, 1987, 1988; Claxton & Murrell, 1987). "Learning style attempts to explain learning

variation between individuals in the way they approach learning task" (Toye, 1989, pp. 226-227). More specifically, learning style involves the complex manner in which learners most efficiently and most effectively perceive, process, store and recall what they are attempting to learn (James & Blank, 1993, pp. 47-48). Although this definition is quite similar to cognitive style, it appears that the real difference between these two concepts lies in the emphasis placed by learning style researchers on the learning situation versus the more general notion of how people perceive, organize, and process information. Therefore, those who study learning style usually place the emphasis on both the learner and the learning environment (Hiemstra & Sisco, 1990; James & Blank, 1993).

Instruction in learning style concepts and techniques can aid educators, administrators, and program planners to establish a point of reference for musicians entering college from diverse backgrounds. Learning style cultural awareness can also assist educators and administrators to place the right learner within the right environment. Some researchers characterize the European-American style as primarily field independent, analytic, and non-affective,

which reflects primarily male and acculturated minority views. The field independent learners prefer an abstract learning style with self-defined goals and reinforcement. However, the non-Western style (meaning such groups as African-Americans, Native-Americans, and many European-American females) is characterized as field dependent, relational and holistic, and affective (Anderson, 1988, p. 4). The field dependent learners prefer a concrete learning style with more teacher group interaction, and they respond best to material relevant to their own experiences (Falkinburg, 2003). Although the learner's styles and preferences rely considerably on knowledge and control over one's thinking and learning (Brown, 1985), there is a need to take account of differences in cognitive and communication styles that are culturally-based (Tennant, 1997).

Despite the lack of consistent agreement about which elements constitute a learning style, some educators suggest that the LSI has been used in helping both learners, instructors, and administrators become aware of their personal learning styles and their strengths and weaknesses as learners (Kolb, 1999, p. 2). Metacognition refers to

higher order thinking which involves active control over the cognitive processes engaged in learning (Livingston, 1997). It is a conscious, reflective endeavor that requires the learner to analyze, assess, and manage learning activities. The development of the concept of metacognition by Flavell (1979) and Brown (1985) uncovered the importance of the learner's self-understanding when related to academic activities (Conti & Koldy, 1999). Mundy (2002) described the effect of learning preference identification and related counseling on adult learning in a graduate degree program in Business Administration. This study found that awareness of and counseling concerning learning preferences provided a more efficient and effective learning situation for both the learner and the instructor. Learners who became aware of and received counseling regarding learning preferences increased their performance on the post-test from the pre-test by 20.3% versus a gain of 3.0% for those who were not made aware of or given counseling regarding learning preferences. Awareness of learning activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive in nature (Livingston, 1997). New students

entering college should be given the LSI during the counseling process before the semester begins. This could improve awareness and assist learners and teachers to recognize, identify, and become conscious of different approaches to the learning activity.

Naturally-trained musicians function throughout the community teaching, influencing, and inspiring other traditional and self-directed musicians and non-musicians. Self-directed/Naturally-trained musicians and teachers should not be excluded from learning new approaches to identify and discover what they already know. These musicians and teachers should also be exposed to alternative ways of perceiving how they "think about their thinking". All of the Naturally-trained musicians in this study were involved with churches, bands, and choirs. Naturally-trained musicians hold leadership positions with responsibilities for directing choirs, bands, and other musical activities. Exposing Naturally-trained musicians to learning styles could enhance their directing and leadership skills to better grasp the learner's style of learning. Not all Naturally-trained musicians remain Self-Directed/Naturally-trained. Many Naturally-trained musicians transcend their

original goals of self-directed learning to explore other means of music study.

Learning Strategies

Conclusions

ATLAS is a useful tool that accurately identifies and describes the learning strategy preferences of formally and informally trained musicians.

The nature of an organization or institution attracts specific types of learners.

Results of this study indicate that all three learning style groups of Navigators, Problem Solvers, and Engagers as identified by ATLAS are represented in the population of learners at Berklee College of Music and Naturally-trained musicians in Tulsa, Oklahoma. This study supports findings made in previous studies (Ghost Bear, 2001; Girdner, 2003; James, 2000; Shaw, 2004; Willyard 2000) that ATLAS is a valid and reliable instrument in determining learning strategy preferences for adult learners. It was also discovered that ATLAS was a useful instrument for the students of Gambia College in Africa (Armstrong, 2001; Pinkins, 2001). This evidence supports ATLAS as a beneficial tool to use with students and non-students from cross-cultural backgrounds. In these studies, the characteristics

of the learning strategy preferences groups were consistent indicating that the original ATLAS categories are stable.

The Western norms for ATLAS indicate that in a given population the distribution should be fairly even between the three groups with the Navigator group having a slightly larger number (Conti & Kolody, 1999). However, current research supports that certain kinds of organizations and institutions draw certain types of learners that influence the learning strategy distribution (Armstrong, 2001; Hinds, 2002; James, 2000; Massey, 2001; Pipkins, 2001; Willyard, 2000). For example, organizations and institutions in a society can be viewed in two ways: (a) Organizations and institutions that are artificial or specifically created for a purpose (e.g., community colleges and music schools) and (b) organizations and institutions that are authentic or naturally created and exist in general society (e.g., churches and universities). The authentic Naturally-trained group exists in general society, and their distribution of learning strategy preferences was consistent with the ATLAS norms. The artificial specifically created Berklee-trained group was different. Slightly under 50% of the Berklee-trained group were Engagers.

Willyard (2000) explored individual differences in learning strategy preference between first-generation and non-first-generation students in a community college. The sample consisted of 101 first-generation and 355 non-first-generation students. In-depth interviews were also conducted with 45 students in each of the learning strategy groups and generational groups to describe barriers that they overcame to attend the community college and influences that led them to attend the community college. The Engagers were over-represented with 54.2% of the population when compared to norms for ATLAS. Thus, "learners gravitate toward learning organizations that convey images that are congruent with their preferred learning strategy" (p. 190). This study supports that learners may be attracted to specifically created organizations that are compatible with their learning strategy preference.

Berklee School of Music, which is an organization created for a specific purpose and approach to teaching music, also attracted Engagers who learn best when they are actively engaged in a meaningful manner with the learning task. Feeling, love, passion, and relationships are key concepts for Engagers (Conti & Kolody, 1999, p. 13).

Engagers experience satisfaction with the learning activity and recognize the value to one's self of learning specific material. If the learning activity is not fun for the Engager, they will seek out other activities that they find more meaningful to build relationships (Conti & Kolody, 2004, pp. 186-187).

The affective domain is the dominant factor in learning for the Engager. Adult educators know through their own empirical practice that learning occurs more often and to a greater degree when participants are involved emotionally, and research in neuro-biology supports this connection. Without the emotive stimuli in the affective dimension, learners become bored and may abdicate from sustained learning endeavors (Tooman, 2004, p. 1).

Engagers and many musicians have similar characteristics. For example, creating music without feeling, love, and passion is hard to imagine, and engaging in music without relationships is impossible. Thus, Engagers, Problem Solvers, and Navigators all approach the learning task by "feeling the music" when involved in the learning activity. However, the difference between the musician's learning strategy preference can be distinguished

by how the learner defines "feeling". For example, the Navigator and Problem Solver may define feeling the music by cognitively associating a song with a past experience. Conversely, the Engager may define feeling the music aesthetically by simply enjoying the music with friends. One can easily associate the characteristics of an Engagers with only having fun. This mistaken quality undoubtably overshadows the true portrayal of what Engagers represent. Since Engagers are fun loving people and enjoy learning in certain environments, this misinterpretation fails to recognize that the Engager's main attribute is the relationship: relational teaching, relational learning, and relational life. "For Engagers, everything in the learning process relates to building relationships with other" (Conti & Kolody, 2004, p. 187).

Recommendations for Learning Strategies

Instruction in learning strategy concepts and techniques should be included in training programs for educators, administrators, and program planners at music schools such as Berklee College of Music.

Instruction in learning strategy concepts should be given to all students at Berklee College of Music at the beginning of their first semester.

Naturally-trained musicians should be exposed to

different learning strategy to recognize and identify their learning habits.

Learners use various strategies to achieve their learning tasks in different learning environments. Learning strategies are those techniques or specialized skills that the learner has developed to use in both formal and informal learning situations (McKeachie, 1978). People approach specific learning situations differently. The learner elects to use external behaviors from experience in order to accomplish a learning task (Fellenz & Conti, 1989, p. 7). Past experiences, content meaningful to the individual learner, willingness to become involved with the subject matter, and tools that the student possesses to enhance learning are contributing factors that influence the student's learning activity (Conti & Kolody, 1999, p. 1).

A definitive explanation for the distinction between individual learners has been the pursuit of many educators. Educational researches have explored the concepts of intelligence, cognition, teaching theories, and learning styles, but none have revealed the diverse methods learners use to achieve their learning task. Thus, adult educators are exploring learning strategy concepts as a method to

better understand individual learning differences.

"Research on teaching and learning has focused on the active role of the learner in student achievement" (McKeachie, 1978, p. 23) and includes techniques and tactics, which improve successful learning. Identifying one's learning strategy can have an effect on one's academic achievement (Mayer, 1987), and a learner's choice of learning strategies can result in better learning (McKeachie, 1978, p. 3; D. Mundy, 2002; W. Mundy, 2002). The success of the learning activity is influenced by the skills and techniques selected by the learner. Awareness of one's learning strategy is a valuable educational tool when learners are discovering how to learn (Fellenz & Conti, 1993, p. 3).

Many educational facilities have discovered the necessity of distinguishing how one learns when engaged in a learning activity. However, some traditional facilities have not considered the learner's distinctive learning methods. It would be difficult to teach musicians to read music if they do not like to read anything or to try to teach musicians to hear music if they do not like associating music listening to music assignments.

The study of metacognition has provided educators with insight about the cognitive processes involved in learning and what differentiates successful students from their less successful peers (Livingston, 1997). It also holds several implications for instructional interventions, such as teaching students how to be more aware of their learning processes and products as well as how to regulate those processes for more effective learning. An important aspect of the growing interest in metacognition in recent years has been an increasing emphasis on the role of self-management (intentional monitoring and guiding of one's own behavior) in human performance (Jausovec, 1994; Kitchener, 1983).

Runco (1990) has stressed the importance of self-evaluative skills and metacognition more generally to creative thinking. Self-management involves becoming an active manager of one's cognitive resources. It is a matter of paying attention to one's own thought processes and of taking responsibility for one's thinking. It involves learning of one's own strengths and weaknesses as a creative thinker and finding ways to utilize the strengths and to alleviate or work around the weaknesses. It means making an effort to discover conditions that facilitate one's own

creative work (Nickerson, 1990).

"Adults need to know why they need to learn something before undertaking to learn it" (Knowles, 1989, pp. 83-84). By identifying one's learning strategy early in the learning process, administrators, program planners, and teachers can establish a foundation for understanding the needs of the learner and evaluate the student's learning strategy preferences. Whether Berklee-trained or Naturally-trained, the benefit of exploring one's learning strategy preference is the same; it is to increase one's ability to learn music more effectively. Identifying a musician's learning strategy preference, also gives facilitators additional tools for effective teaching.

Learning Styles and Strategies Relationships

Conclusions

How a person perceives information and how one initiates a learning activity are similar.

When comparing learning styles and learning strategies, a distinction should be made for what each instrument is measuring. Kolb's four stage theory is based on a model with two dimensions. The first dimension extends horizontally and it is based on task. The left end of the dimension is doing

the tasks (performing), while the right end is watching the task (observing). The second dimension runs vertically and is based upon one's thought and emotional processes. The top of the dimension is feeling (responsive feelings), while the bottom of the dimension is thinking (controlled feelings). TLSI measures how people perceive (feeling/thinking) and process (performing/watching) information in the learning cycle and the learning style categories are defined as Divergers, Assimilators, Convergers, and Accommodators.

The characteristics used to define the Divergers (feeling/watching) appear similar to the characteristics that define the Engagers (affective), but the instruments are different and casual comparative assumptions cannot be made. In fact, the Problem Solvers and Navigators were more like the Assimilators with both sharing the cognitive domain, and the Engagers share similar affective characteristics with the Accommodators. The LSI Abstract Conceptualization-Concrete Experience (ACCE) mean scores for the Navigators and Problem Solvers placed them on the bottom of Kolb's vertical "thinking" dimension, while the mean score for the Engagers placed them on the top of Kolb's vertical "feeling" dimension. Thus, responses for how a

person perceives information and how one initiates a learning activity are similar.

Experiences, feelings, and relationships, are the central characteristics that integrate the Engagers and Accommodators (Conti & Kolody, 1999, 2004; Kolb, 1987). The Accommodator combines learning from the Active Experimentation (doing) and the Concrete Experience (feeling) side of the LSI grid, and the Engagers exhibit extreme passionate affective traits. Both, Engagers and Accommodators are passionate learners who love to learn, learn with feeling, must enjoy the learning experience, and they love learning with people (Conti & Kolody, 2004; Kolb, 2003).

Developing theories, critical thinking, and reflective observation are the common characteristics not only for Assimilators but also for Navigators and Problem Solvers. The Assimilators, Navigators, and Problem Solvers use learning processes from the cognitive domain; they learn by "thinking".

Recommendations for the LSI and ATLAS Use

Learning styles and strategies should be labeled through what is known about the characteristics of the adult learner.

Knowing one's learning preferences creates the power to help people discover and capitalize on their strengths. This can make a great contribution to the ambitions of the learner. Psychometric approaches to learning can quantify learning style and learning strategy characteristics by using appropriate learning preference instruments (Conti & Kolody, 2004; Kolb, 1985; Mayer, 1995). They can also: (a) provide a self-directed scoring and interpreting process that actively engages the learner in the context of personal experience, (b) encourage discovery of individual preferences and highlight growth opportunities, (c) simplify complex issues to increase understanding, (d) foster self-awareness and behavioral insights for long-term performance improvement, (e) create a common, nonjudgmental language for identifying and dealing with issues, and (e) increase appreciation of differences in others (Conti & Kolody, 2004; Kolb, 1984). However, care must be taken when comparing learners to instrumental categories.

Learning preference instruments places people into categories that help educational researchers and teachers discover different forms of mental representations. Classifying learners' preferences can be useful for

identifying groups of learners when encountered in an instructional setting. These labels can be beneficial for selecting appropriate methods and techniques when used to focus understanding, discussion, and reflective thought about the learner. In contrast, "labels can be detrimental if they are used to avoid critical thinking about the learners" (Conti & Kolody, 2004, p. 187). Thus, the knowledge of learning preferences can be a useful tool for the institution to immediately begin to address individual differences. However, "once the general learning preferences of the learners are identified, they should always be filtered through what is known about the characteristics of the adult learner" (p. 187), and this information should be constantly monitored based upon ongoing information concerning the learner. Educators should also recognize their own learning preferences. This will help to ensure that educators do not unintentionally force one learning method upon the learners.

Learning styles and learning strategies measuring tools use literature-based constructs to identify learning groups. For example, the Self-Knowledge Inventory of Lifelong Learning Strategies (SKILLS) consists of real-life learning

scenarios with responses drawn from the areas of metacognition, metamotivation, memory, critical thinking, and resource management (Conti & Fellenz, 1991; Fellenz & Conti, 1989). Furthermore, the Learning Styles Inventory (LSI) uses four learning modes based on John Dewey's emphasis on the need for learning to be grounded in experience, Kurt Lewin's work that stressed the importance of a person being active in learning, and Jean Piaget's theory on intelligence as the result of the interaction of the person and the environment (Kolb, 1984).

Learning preference instruments are best used as tools to create awareness that learners differ and as "starting points for individual learners' continued investigation of themselves as learners" (Hiemstra & Sisco, 1990, p. 240). When making program decisions about learners, it is especially crucial that care be taken when results are used for influencing career directions. In addition, educators and practitioners are endlessly conducting empirical educational research where new discoveries are uncovered daily. By grouping learners into inflexible categories one would easily neglect new interpretations and characteristics of the learner. For example, this study found a intense and

moderate cluster within Kolb's feeling (CE) and thinking (AC) modes. Exploring learners' preferences and understanding metacognition concepts can aid educators with assisting learners to approach new alternatives to learn old material in new ways. However, many variables exist within the processes of individual learning preferences.

Creativity

Conclusions

All musicians are not creative.

The most talented and skilled musicians are not necessarily the most creative.

Many academic psychologists have argued that creativity by definition is unexplainable and beyond empirical research. This could be true when relating to the processes of creativity, but it fails to distinguish two other important and observable characteristics of creativity, specifically the person and the product (Feist, 1999, p. 273). The inner workings of the creative mind may now be outside of direct observation, but the behavioral dispositions of the person creating are not. One component of creativity focuses on the personality traits of creative people. The creative personality themes used in this study

measured levels of creativity for Berklee-trained and Naturally-trained musicians. The musician's creativity scores were distributed on a fairly normal shaped curve, and there also was a major difference in levels of creativity between the Berklee and Naturally-trained musicians.

The general consensus of creativity experts is that the two defining characteristics of creativity are originality and usefulness (Feist, 1994; Gruber & Wallace, 1993; Lubart, 2001; Lumsden, 1989; Martindale, 1989; Nickerson, 1990; Sternberg, 1988), but some creativity experts criticize definitions of "creativity" as being too vague and covering too much ground. Csikszentmihalyi (1996) defines creativity in three different ways: (a) brilliance—people who express unusual thoughts but never contribute something of permanent significance to society, (b) personally creative—people who experience the world in novel and original ways and make important discoveries that only they know about, and (c) creatively qualified—people who have changed our culture in some important respect (p. 25). The musicians in this study have not yet become, according to Csikszentmihalyi's definition, creatively qualified. That is, not all were people with unusual thoughts that experience the world in

novel and original ways and who are striving to produce something original and useful.

Some distinguishable traits of creative people from non-creative people are their personal drives and ambitions, the price they pay for creativity to occur, and the efforts needed to change tradition (Bakker, 1991). The musician must first develop high levels of proficiency and talent before creativity occurs. For example, musicians must first sacrifice many leisure activities normal people enjoy. They must learn the musical tradition, the notation system, and the way instruments are played before one can begin to grasp the concept of critically composing creatively. All musicians do not possess the determination, resiliency, and endurance to accomplish creative acts. Additionally, many musicians have little or no desire to achieve, for what they believe to be, idealistic expectations.

Many non-creative people regard any artistic person as being creative, and they sometimes confuse the definition of talent with creativity. The majority of participants in this study believed that talent was a skilled-based concept that could be learned but that creativity needed less structure with more freedom or more originality. Talent must appear

before creativity can be developed, and basic fundamental skills must be learned before creativity materializes.

Talented musicians are no different from talented doctors, lawyers, and educators. There are many talented people in different professions and well as creative people. For example, there are many talented educators, but some such as Brookfield, Dewey, Freire, Horton, Houle, Knowles, and Smith, were all creative. They all shifted the domain of education, enhanced the field of adult education and individually became creatively qualified by contributing something culturally useful and original.

The Naturally-trained musicians creativity scores were higher than the Berklee-trained, but there was a average 10-year difference between the two groups. Slightly over 75% of the Naturally-trained group was over 29-years old and normally with age comes more real-life experiences.

Shakespeare was in his late 30's and early 40's when he wrote Hamlet, Othello, and Macbeth. Tolstoy was 38 when he published War and Peace, and Michelangelo completed the Sistine Chapel at age 37. Newton's Principia was created at age 45, and Beethoven's 5th Symphony at age 37. Examples such as these have led many researchers to surmise that "the 40th

year marks the high point of a creative career" (Simonton, 1984, p. 93). The Berklee-trained group's average age was 22-years old with very little real-life experiences. College was the beginning real-life adult experiences for the majority of the Berklee-trained musicians. Age does not guarantee creative skills, but creativity rarely comes without experience in the domain.

Recommendations

Educators should use caution when distinguishing the most talented students and not confuse talent with creativity.

The Deterrents of Participation Scale (DPS) used with the general adult public revealed six factors of non-participation: lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and person problems (Darkenwald & Valentine, 1985, p. 57). The learner is assumed to enter a new learning situation with emotional baggage from earlier learning experiences. Some of this can be constructive for the new situation and some may not. In some cases the processes of learning may cause some anxiety; this may be sometimes hidden, projected, or deflected into inappropriate behavior (Burge, 1988). Thus, educators must not neglect learners who may not possess the traditional

characteristics of exceptional students. For example, students applying for music schools that test poorly on auditions should be given other alternatives to demonstrate other creative abilities. A musician may not read or write music well, but that person may possess exceptional natural musical abilities such as compositing and performing. Denying access to non-traditional musicians maintains the image of traditional thinkers without exploring other possibilities of expressing new and useful ideas from different types of learners.

Creativity and intelligence may represent different processes, and intelligence may be required in different fields of creative endeavor. For example, intelligence may not be needed to be a creative musician but certainly would be expected in a Nobel Prize-winning physicist (Sternberg & O'Hara, 1999, p. 251). However, knowledge is described by some researchers as a double-edged sword. On the one hand, in order to advance a field beyond where it is, one needs the knowledge to know where the field is. On the other hand, knowledge can hinder creativity by leading an individual to become entrenched in established ways of thinking (Sternberg & Lubart, 1991). The imagination can be suppressed by

inflexible convergent thinking, and visualizing ideas are conceptualized within an analytical and deductive frame of reference. Thus, the individual may sacrifice flexibility for knowledge (Frensch & Sternberg, 1989). Traditional musicians may possess advanced levels of formal music intelligence needed to become proficient in the field, but the aesthetic domain of music does not require traditional music intelligence to become highly successful. Legendary entertainer Elvis Presley could not read or write music, but his accomplishments influenced millions of fans through non-traditional music intelligence.

Research exploring relationships between child prodigies and creativity revealed six groups (Howe, 1996), but one group overshadowed the others. This group consisted of people who did not have a stimulating and supportive early upbringing and were not prodigies in childhood, but as adults, were nevertheless capable of creative achievement. Although research has shown that a stimulating and supportive early upbringing generates a high probability of creative success, people without these attributes can also reach eminence. Thus, people who carry baggage to the learning environment and may not excel within the norms are

still capable of accomplishing exceptional works.

Some students seem naturally enthusiastic about learning, but many need or expect their instructors to inspire, challenge, and stimulate them: "Effective learning in the classroom depends on the teacher's ability to retain interest that brought students to the course in the first place" (Erickson, 1978, p. 3). Whatever levels of motivation students bring to the learning environment will be transformed, for better or worse, by what happens in that environment.

Creativity and Learning Strategy and Learning Style
Conclusions

There is no relationship between learning styles, learning strategies, and creativity.

Learning styles refer to the "complex manner in which, and conditions under which, learners most efficiently and most effectively perceive, process, store and recall what they are attempting to learn" (James & Blank, 1993, pp. 47-48). Learning strategies are "external behaviors developed by an individual through experience with learning which the learner elects to use in order to accomplish a learning task" (Fellenz & Conti, 1989, p. 7). Creativity is the

ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e., useful, adaptive concerning task constraints (Sternberg & Lubart, 1991). In other words, those techniques or specialized skills used by the learner to either initiate, take in, reflect on, and act on an experience have nothing to do with creating something new and useful. Learning strategies, learning styles, and creativity are different. Thus, for the musicians in this study, how one creates has no relationship to how one perceives and processes information.

The concept of creativity has its own history. Researchers and philosophers throughout history have tried to describe one definitive explanation for creativity. The view of creativity was weakened by a number of early Christian writers and replaced by Saint Augustine's doctrine set forth in his City of God (Boorstin, 1992, p. 55). These assumptions were not seriously challenged for nearly 1200 years until the idea emerged that special talent or unusual ability by an individual (mostly men) was the manifestation of an outside spirit for which this individual was a channel (Albert & Runco, 1989).

For two centuries, creativity took an intellectual path

detached from the institutional conceptions of research. From the beginning, research and creativity were not viewed as related to one another. The pairing of research and creativity had to go through major scholarly transformations. It took another 150 years after research was recognized before the concept of creativity and its meaning was defined and separated from competing ideas such as imagination, originality, genius, talent, freedom, and individuality (Engell, 1981; Gruber, 1996; Kaufman, 1926). What emerged from this separation was the need for freedom—"an individual's right to explore their world without institutional permission and divine guidelines or intervention"; people had no need for artificial authority and social restraint (Albert & Runco, 1989).

Creativity is a rare trait that exists everywhere. It requires the simultaneous presence of a number of traits such as perseverance, originality, and the ability to think in a particular way. None of these traits are especially rare, but what is uncommon is to find them present in the same person. Creativity can surface anywhere at any time, and there is no specific formula to foresee the how, when, and where of its existence. It can be cultivated,

encouraged, and coached, but when (and if) it will break through is a mystery. When creativity is recognized, it can be examined, and its characteristics can be named. However, classifying common traits does not undoubtedly confirm an integrated description of its validity. Creativity is a separate concept that is removed from how one initiates, perceives, and processes information. There is absolutely no relationship between one's learning style, learning strategy, and creativity.

Recommendations

Educators and musicians should explore creativity characteristics to enhance the learner's growth and development.

The concept of creativity is difficult to define, but the constructs measured by various similar traits within creative people illustrate a better perception of how to identify creativity characteristics. For example, how is love defined? The concept of love is abstract, but one can measure similar feelings, thoughts, moods, and desires within people who claim to be in love. These measurements then move an abstract concept into an observational definition that becomes concrete. If one can identify creativity characteristics, then one can begin to formulate

new methods and approaches for learners to interpret creative processes.

Learning strategies and learning styles had no relationship to creativity, but by knowing how learners process and perceive information, the teacher can improve how creative material is presented. For example, Navigators and Assimilators prefer making logical connections by using convergent thinking--both perceive information from the cognitive domain. Thus, when presenting learning tasks to demonstrate flexibility, the teacher would explain and illustrate the learning material in a logical step-by-step format. The Navigator-Assimilator can then follow the course pattern by using self-direction. In contrast, Engagers and Divergers prefer engagement with groups when learning--both perceive information from the affective domain. Therefore, when presenting learning tasks to demonstrate divergent thinking, the teacher could assemble learning groups to engage learners for interactive collaborative learning. Categorizing learners has no relationship to creativity, but categorizing learners to present learning material could promote creative thinking.

Groups and Creativity

Conclusions

The Learning Style Inventory's Abstract Conceptualization-Concrete Experience (ACCE) grid can determine degrees of learning from intense to moderate passion for musicians.

People differ in how they go about certain activities associated with learning. They differ as to how they think, how they approach problem solving, and how they go about perceiving and processing information. Over the years, research has established a sound basis for taking seriously individual learning styles (Kolb, 2003). People do have identifiable learning styles that have important implications for teaching and learning.

Understanding one's preferred learning style can help learners understand their areas of weakness. This can give learners the opportunity to work on becoming more proficient in other learning style modes, and it can help the learner recognize their strengths, which could be useful in many learning situations. For example, a facilitator could divide a class into two groups. Group 1 could consist of the thinkers (Assimilators and Convergers) and Group 2 could contain the feelers (Accommodators and Divergers). During the exercise the facilitator could direct Group 1 (the

thinkers) to complete the problem by using non-judgmental imaginative brainstorming through group work while Group 2 (the feelers) is instructed to complete the problem by reading alone and finding logical theoretical conclusions. This exercise could expose the learners to undesirable learning settings and support the need to be flexible in other styles of learning.

Kolb's Learning Style Inventory (LSI) is one of the most popular measuring instruments for measuring learning styles, and the model continues to provide an excellent framework for planning teaching and learning activities (Tennant, 1997, p. 92). Kolb's LSI categories are acknowledged by many educators, counselors, and program directors as a standard placement tool for students entering learning institutions. Some of the career characteristics for the LSI groups are:

1. **Accommodators:** Dealing directly with people, seeking/exploiting opportunities, and influencing/leading others.
2. **Convergers:** Experimenting with new ideas, creating new ways of thinking/doing, and setting goals and making decisions.
3. **Assimilators:** Organizing information, building conceptual models, and analyzing quantitative data.
4. **Divergers:** Gathering information, being sensitive to values, and dealing creatively

with ambiguity. (Kolb, 2003, p. 14).

Final statistical analysis revealed four distinctive groups among the groups in this study. The prime item separating the groups was the ACCE score on how they perceived information in a learning activity. The Extreme passionate feeling and doing group were more extreme with feeling and processed information by doing, while the moderate feeling and watching group were moderate with feeling and processed information by watching. The extreme intensive thinking and watching group were more extreme with thinking and processed information by watching, while the moderate thinking and doing group were moderate with feeling and processed information by doing.

Although four new groups were identified within the LSI's ACCE scores, Kolb's four categories are different and are not measuring the same construct. These new distinctive groups are a combination of Abstract Conceptualization (thinking) and Concrete Experience (feeling) measured by degrees of passion. Kolb's LSI can provide insights on why there are four different diverse groups.

There were two perceiving groups (feeling) and two processing groups (thinking). Each group was measured by

degrees of passionate intensity and moderation. The Elvis Presley group was the most passionate group that perceived information by feeling. The intense passion was in the music and the value was in the performance. The Willie Nelson group also perceived information by feeling, but they were moderate watchers (reflective) with less compassion for flashy performances. They used music as a passage towards other projects. The Johann Sebastian group was the most passionate group that perceived information by thinking. The intensity and passion for music were not in the performance, but it was in the creative composition. The Bob Dylan group was the final group. They perceived information by thinking, but they were less concerned with the music business hype. Their inclusive awareness of issues of the time produced reflective music art for internal meaning and purpose.

Recommendations

Educators can use the knowledge and the degree of passion for LSI groups to improve career choices for learners and educators.

The Learning Style Inventory has proven to be a useful tool for educators when used with care for student career development. Educators and musicians can use the LSI to improve career decisions. By assessing student needs with

additional categorical information, educators can better describe the learner's levels of perceiving information. For example, the LSI learning group of Convergers are defined as "one who has the ability to solve problems and make decisions based on finding solutions to questions or problems. They would rather deal with technical tasks and problems than with social and interpersonal issues" (Kolb, 1999, p. 7). Consequently, the recommended career choices for Convergers are, engineering, computer sciences, and medical technology (p. 14). If perceiving information could be precisely measured within degrees or levels of passionate intensity, then better career choices would be assessable to learners. For example, if a Converger musician is more on the intensive side of the LSI Abstract Conceptualization (thinking) scale, the musician could then be counseled for the audio engineering design track. However, if the musician is a moderate Converger on the LSI scale, then the audio engineering recording track could be suggested. Both audio engineering degrees are competitive and challenging, but one area is detailed and the other is less detailed. Another example would be if a Diverger is more on the intensive side of the LSI Concrete Experience (feeling) scale, the student

could then be counseled for a performance-based track. However, if the student is a moderate Diverger on the LSI scale, the performance arranging track could be suggested. Both are performance-based choices.

CHAPTER 7

THE FREEdom ROAD

Introduction

The qualitative information gathered from the musicians in this study was perceived from a perspective similar to historians. Historians present rational arguments regarding the past, based on facts and their own perspectives. Reality disciplines the historian. One cannot create people and events, chronologically string them together, and have a worthwhile history (Carlson, 1980, p. 42). Interpretation is essential to a historical study and is an important and difficult skill to master. Historians interpret the past by filtering accessible important evidence and by merging this information with their own values and philosophy. Thus, from their own perspective, they create or discover patterns in the thinking, action, motivation, and relationships that occurred for interpretation. History then becomes a personal individual effort to make sense of what has happened at some point in the past (p. 43).

Historical research is not intended for solving problems or for predicting or controlling human action. The intent is to explore issues related to people and their

relationships. The musicians in this study uncovered noteworthy themes that collectively shaped how they view what is taking place in music learning. It is the belief of many historians that people are far too complex and spiritual a creation to be reduced to articulating a study in the form of a scientific theoretical problem (Carlson, 1980, p. 44). However, the historian is not a totally free spirit. Some of the musician's comments could be interpreted as vague and not specifically defining the characteristics of learning. However, the researcher has to develop ways of dealing intelligently with sources and find ways to take charge of the data gathered. Conclusions, theses, and interpretations developed from the data should stand the tests of logic.

In interpreting and giving meaning to history, the historian has a vast array of data from which to select.

While working with his sources, the historian begins to develop in his own mind the story he will tell. He begins to look for issues of import that he can fashion into his story. He determines what it is he wants his story to accomplish. He begins to draw out of himself an explanation or interpretation of why the story happened in the way he recounts it. Then he performs the most difficult early requirement: he struggles to develop a thesis or argument around which he will evolve his story. (Carlson, 1980, p. 45)

In writing this way, "one certainly needs balanced judgment, but one ought not to clutch at that wet noodle called objectivity. After making a judgment, historians write in support of that judgment" (p. 47). To do this, "they take a position and argue it with reasoned passion. In their writing, they marshal the facts to prove their case" (p. 47). Thus, like historians who "interpret the past by shifting through the available relevant evidence and by mixing this information with their own values and philosophy" (p. 42), the researcher used the qualitative data from this exploratory study to "tease out, dream up, and spin out" (p. 42) an interpretation of how musicians perceive the creative process. For musicians, the creative process flows around four themes which form the acronym FREE which is composed of Flexibility, Resources, Exploring relationships, and Experience. These four themes are consistent with other studies of creativity (Csikszentmihalyi, 1996; Feist & Barron, 1996; Gardner, 1993; Schoenberg, 1970).

Creative Freedom

The conceptualization of creativity grew out of discussions regarding the basic nature of people when

released from institutional principles. Early debates involved only a slight interest in how this could be investigated, but further insight of creativity defined the key component as freedom (Sternberg, 1999, p. 17). This was the "individual's right to explore their world without institutional permission and divine guidelines or intervention" (Albert & Runco, 1989). Freedom is defined as "the quality or state of being free, as the absence of necessity, coercion, or constraint in choice or action" (Merriam & Webster, 2000). No constraints in choice or actions speak clearly for those who possess the gift of creativity. Freedom is one of the traits that lead people toward their full potential (Maslow, 1968).

A creative musician is someone that just does what they want to do. Someone like that doesn't even listen to the industry [music business]. They just come up with ideas off the top of their head without any other influences. They say, "This is what I'm coming up with, whatever I feel." They're not worried about any record sales or whether anybody is going to like it or not. "This is the music that I want to make, take it or leave it." We can be good musicians and have something in our heads and say, "Well this is what's working today, so let's kind of stick to what's working today. We'll give it our twist [personal music style], but let's stick to what's working today." That's talent, but the creative ones say, "The hell with it. I'm going to make whatever I want to make and I'm going to put it out." Very few people can do

that. I think you've just got to be true to who you are and say this is what I'm going to do. (33-year old, African American male, Naturally-trained, Navigator, Assimilator)

The most significant distinctions related to creativity made in the mid-1700s were between the idea of creativity and those of genius, originality, talent, and formal education. At the heart of these debates were efforts to clarify the legitimate sphere of individual freedom as distinguished from social and political restraints. "Society's laws and the somewhat arbitrary limitations imposed by authority were naturally in opposition against 'original' genius and constituted a pernicious barrier to people's freedom and originality" (Addison, 1983, pp. 3-5). These prolonged debates regarding the relationships and differences among genius, originality, uniqueness, innate ability, and freedom eventually came together in the eighteenth century doctrine of individualism (Engell, 1981; Kaufman, 1926).

Although recognition of creativity, original thought, uniqueness, and genius were classified separately from talent, many creative and potentially creative people continue to fight for freedom of nontraditional thinking.

Albert Einstein was often quoted in support of the romantic view that genius is hampered, not natured, by traditional education:

It is, in fact, nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mostly in need of freedom without this it goes wreck and ruin without fail. It is a very grave mistake to think that the enjoyment of seeing and searching can be promoted by means of coercion and a sense of duty.

(Schlipp, 1951, p. 17)

With the loss of freedom, one reduces or loses what may be a defining human characteristic: one's ability to be constructively creative (Glasser, 1998, p. 40). Early theorists argued that freedom of expression could occur only in the absence of external regulation. Carl Rogers (1954) believed that creativity was motivated by people's self-actualizing tendencies, the drive to fulfill their potential. His theories explored self-actualizing creative drive being present in everyone, but in order for it to be fully expressed in creative expression, certain conditions had to be met (Collins & Amabile, 1999, p. 298). Creativity must occur in a context of self-evaluation rather than being driven by a concern with being evaluated by others. Thus,

creative individuals must value their own internal assessment of their work; this is a condition that is most likely to emerge in an environment characterized by the absence of external evaluation and the presence of freedom (Koestler, 1964).

FREEdom

The interview sessions from this study explored differences of learning strategies and learning styles and the relationship to creativity when learning music. The common underlining creative themes of both Naturally-trained and Berklee-trained musicians outlined flexibility, resources, exploring relationships, and experience as a primary collective concept. This concept can be called FREEdom and consist of the following: (a) Flexibility--able to maneuver through and around many obstacles by creatively improvising and adapting to new, different, and changing requirements; (b) Resources--utilization of human or material sources, supplies, or available means; (c) Exploring relationships--being, belonging, or working together through participation, collaboration, and group learning; and (d) Experience--something personally encountered, undergone, or lived through that develops

practical knowledge, skill, or practice derived from direct observation or participation in events or activities.

The musicians in this study disclosed two levels of FREEdom: personal and professional. The first level of FREEdom is a beginning learning phase that develops talent through flexibility, availability of resources, exploring relationships, and use of experience with people who are easily assessable. This personal FREEdom takes effort, but the intensity and concentrated effort is motivated by the passion and challenge to learn the skill. However, the people within the personal FREEdom group function as an encouragement team. For example, someone wants to learn to play guitar. A family member purchases the instrument and encourages the learner. A teacher provides instruction, support, and modeling. The learner performs with other musicians to develop relationships and build experience. Moderate effort to learn personal FREEdom develops talent.

The second level of FREEdom is an advanced learning stage where professionals in the creative field are not easily assessable and where creativity is developed but is not guaranteed. This professional FREEdom takes extreme passionate effort to continue one's dream. This extreme

effort is motivated by the internal drive to produce professional quality work. Quality creative work can produce recognition in the field, financial security, and a personal victory of accomplishment. However, the people in this FREEdom group function as gatekeepers. FREEdom now becomes more self-directed. For example, the guitarist is encouraged by people within the personal FREEdom group to explore advanced opportunities. The musician could enroll and graduate from music school, which would be the final personal FREEdom phase. Extreme passionate effort must now be learned by the musician in order to become more flexible, to find better resources, to explore prominent relationships, and to learn from past experiences. Extreme passionate effort to access the field and to learn professional FREEdom develops creative works. Each of these various elements of creativity are necessary to develop, cultivate, and support the creative process for musicians when learning and applying music.

Flexibility

In FREEdom, flexibility is defined as adaptation and improvisation around and through many obstacles or a capacity to persevere. This definition of flexibility is not

to be confused with one of Guilford's (1975) factors involved in creative problem solving. Guilford's flexibility is defined as shifts in cognitive approaches. However, the musicians in this study identified flexibility as an essential practice during the FREEdom process. Creativity cannot be achieved until one's individuality, freedom of choice, and a decision to pursue the creative act is established (Csikszentmihalyi, 1990; Sternberg, 1999).

The musicians elaborated on the obstacles that one manages while trying to pursue a passion that many do not understand. During the interviews, the musicians covered many topics. However, the topics did not articulate flexibility directly as a major theme. After an extensive review of the interviews, flexibility was the major theme that connected the musician's affective behaviors. For example, challenges, decisions, emotions, goals, motivations, reflections, and rejections collectively identified the concept of "learning to be flexible" as a survival tool for musicians.

Flexibility has a different meaning for men and women. In this study, 75% of the musicians were males. This high percentage of males is consistent with the small number of

women performers and music educators in the music industry.

Although women have gained equal access to music education through public schools, obstacles still block their paths to success as professional musicians and music educators. The number of professional female performers in orchestras only increased after union contracts mandated that auditions take place behind a curtain screen (Atterbury, 2002). Omission is a powerful teacher. Thus, the women in this study expressed confidently that being flexible and having realistic expectations are two separate issues. Learning to repetitively adapt, improvise, and overcome obstacles when many of the barriers are related to male gatekeepers can deteriorate many efforts made by women to pursue a professional career in music.

Most rock stars and rhythm and blues stars want to get out there [make it in the music business] because they really want to be known and have the money. I hope that happens, but I really don't care if it doesn't because I have other choices in my life. I'm not like some artists that are stuck only in music. I have a very wild range of things I can do if it doesn't work out. (21-year old, African-American female, Berklee-trained Navigator)

Successful intelligence requires "striking a balance between knowing when to adapt and when to select another

environment" (Sternberg, 1996, p. 246). Successfully intelligent people understand the need to sometimes shape their environment. The women in this study pursued music, but they seemed to recognize naturally that adapting an unrealistic expectation during the learning process would only lead to disappointments and unfulfilled dreams. For example, one woman student is attending Berklee College of Music but she has already decided that other options may be needed to succeed professionally. Another woman in this study placed her music career on hold to marry, have children, and raise a family while settling for part-time performances. For the women in this study flexibility could be defined as adapting, improvising, and overcoming obstacles that are timely and realistic while flexibility for men could be defined as adapting, improvising, and overcoming at all cost with no time limits. If a person's priority is financial and social goals, it is less likely that their flexibility will continue to endure the insecurities involved in the production of novelty, and they will eventually settle instead for a more conventional and secure career (Csikszentmihalyi, Getzels, & Kahn, 1984; Getzels & Csikzentmihalyi, 1976).

Resources

All of the participants in this study had access to material and human resources. Resources are "people and materials from which the learners can seek information" (Smith, 1982, p. 113). For example, counselors, instruments, mentors, teachers, and places to perform were naturally available for the participants. Even the families who could not afford musical instruments for those interviewed could find with little effort available resources through public schools, community organizations, and special donations. One major resource for learning music is the public school. For the participants in this study, public school band rooms were filled with surplus musical instruments and resources waiting for students to enroll in band or choir. However, the law that currently authorizes the federal government to actively engage in education is PL117-110, which is the Elementary and Secondary Education Act best known as "No Child Left Behind (NCLB)". This law could eventually eliminate many arts, language, and music education programs from public schools throughout the country (National Association for Music Education, 2002). The schools that will be most affected are the lower economic district

schools. Musical creativity has now moved from 50 years of innovation to future elimination. Even the participants in this study that attended public elementary schools that were not considered "economically developed" remembered the effect of having available resources.

I was playing violin and cello in the little school band when I was in the 4th grade. I played violin and cello because that's all they offered back then. It was just my love for music that made me want to play anything. (45-year old, African-American male, Naturally-trained, Engager, Diverger)

I was in my first band when I was in the seventh grade. I started playing violin in the sixth grade and saxophone. Then I moved into the school band. (45-year old, African-American male, Naturally-trained, Engager, Accommodator)

These 45-year-old African-Americans growing up in what they considered a non-economically developed school still had opportunities to choose from a wide selection of orchestral instruments. Today, one can only imagine how some youth can fulfill the desire and love of music and art when resources needed for these programs will be eliminated from school budgets. The lack of resources could be detrimental to intellectual and creative stimulation.

Exploring Relationships

Current research with talented teenagers shows that

many fail to develop their skills not because they have cognitive deficits but because they cannot stand being alone (Csikszentmihalyi, 1990; Nakamura, 1988). Relationships were the central themes amongst the participants in this study. Choirs, churches, colleges, counselors, families, schools, and musical groups, collectively contributed to cultivating and exploring learning music. When group members are proficient with planning, conducting, and evaluating their combined works, it becomes easier to learn and solve problems. The group's emphasis is on learning how to use the experience and expertise of all members to accomplish group tasks and goals (Smith, 1982, p. 22).

Connected teaching describes a process of collaborative knowing among learners and teachers (Beleny, Clinchy, Goldberger & Tarule, 1986). Creativity cannot be established without collaborative exchanges between peers. This is a basic principle of adult learning, and adult education researchers and writers talk extensively of the assumptions and theories of collaboration, participation, and experiential learning (Brookfield, 1988; Conti & Kolody 1998; Cross, 1981; Daloz, 1986; Fellenz & Conti, 1993; Freire, (1970); Geerdes, 2003; Ghost Bear, 2001; Jarvis,

1987; Kidd, 1973; Knowles, 1970; Merriam, 2001; Pinkins, 2001; Schön, 1987; Shaw, 2004; Smith, 1976; Tough, 1971; Willyard, 2000).

Howard Gardner (1993) examined the lives and works of seven creative individuals in seven different fields: Albert Einstein, Pablo Picasso, Igor Stravinsky, T. S. Eliot, Martha Graham, and Mohandas Gandhi. Gardner found that the unique form of a creator's work is created within a small group of peers, particularly when innovative ideas are explored for development. All seven of Gardner's creative people critically analyzed, deliberated, and evaluated concepts while forming sets of personal and professional relationships. Group learning assists creative people during the developmental process of original thinking that can sometimes lead to a prominent and distinguishable career.

Diverse relational groups can contribute different ideas from different groups of people within the same domain. For example, performing musicians learn by sitting-in (performing) with different bands or musical groups. Each distinctive learning group's style can contribute to different experiential ways of approaching the same concept.

Experience

Creativity is a function of two basic variables, enthusiasm and experience. Enthusiasm alone produces nothing more than original work, but experience is what gives the creative people the capacity to discriminate between good and bad ideas and to articulate original ideas with greater effectiveness (Simonton, 1984, p. 108). The adult education, creativity, and learning preferences literature are saturated with studies and theories of experience and experiential learning. However, the musicians in this study moved through many creative experiences by personally encountering how to learn through people and places. Time invested to explore and live experiences was a major factor for them during the creative process.

To reach the standard of a reasonably good amateur, instrumentalist takes approximately 3,000 hours and to be a professional instrumentalist demands approximately 10,000 hours of training and practice, assuming that the musician is able, committed, and receiving expert instruction (Ericsson, Krampe, & Tesch-Romer, 1993). The musicians in this study developed experience at early ages. Naturally-trained musicians were learning to become familiar with theories and concepts of music even without the availability

of traditional "expert instruction".

Carl Rogers (1969) distinguished two types of learning: cognitive and experiential. Cognitive learning corresponds to academic knowledge such as memorizing the names of books and authors and experiential learning refers to applied knowledge such as learning how to apply the books in the context of everyday life. The key to the distinction is that experiential learning addresses the needs and wants of the learner; it is "education that occurs as a direct participation in the events of life" (Houle, 1980, p. 221). Here learning is not sponsored by some formal educational institution, but it is undertaken by people themselves. It is learning that is achieved through reflection upon everyday experience and is the way that most people learn. The musician's needs and wants were the catalyst that transformed the dream of music from abstract cognitive experience into concrete experiential life learning.

The expansion of the concept of FREEdom enhances and gives new meaning to the general term freedom. The general term freedom is a prerequisite for initiating creativity. Additionally, the creativity constructs revealed by the musicians in this study suggest that FREEdom, collectively

expands an individual's opportunity to progress from talent learning to innovative thinking.

FREEdom Education for Adults

The relationship between creativity and the adult education movement can be easily overlooked. Both are fairly new concepts that are continually expanding. The first major push of creativity began in the 1950s. Adult education was established in the United States as a field of professional practice in 1926 with the founding of the American Association for Adult Education (Darkenwald & Merriam, 1982, p. 15), and the first book to report results of adult learning research was Throndike, Bregman, Tilton, and Woodyard's Adult Learning in 1928. Thus, both disciplines are approximately 50 to 75 years old. The creativity experts called for inventive divergent thinking in the 50s to compete with other countries for world supremacy. Likewise, adult educators in the 70s and 80s passionately called for educational divergent thinking to create better learning models for adults.

Through changing times, freedom has meant different things for different people. However, education has always been seen as crucial to obtaining true freedom and equality

for all people.

Freedom means essentially the part played by thinking which is personal in learning; it means the intellectual initiative, independence in observation, judicious invention, foresight of consequences, and ingenuity of adaptation to them. The important thing to bear in mind is that freedom designates a mental attitude rather than external unconstraint of movements, but that this quality of mind cannot develop without a fair leeway of movements in exploration, experimentation, and application. (Dewey, 1916, p. 302)

John Dewey's influences can be seen in many writers that have influenced the development of non-traditional education. Dewey's concept of free thinking challenged traditional styles of learning and teaching. "True individualism is a product of the relaxation of the grip of the authority of custom and traditions as standards of belief" (Dewey, 1916, p. 305). What began as a philosophical thought transformed into something innovative, functional, and original. Dewey's concept of freedom within education, emphasized the need for individuals to interact with other groups to explore diverse relationships to develop experience (Dewey, 1916, p. 99).

The works of several creative prominent adult educators illustrate the elements of FREEdom within adult education.

They are Eduard Lindeman, Paul Bergevin, J. Roby Kidd, Malcolm Knowles, Myles Horton, Paulo Freire, Jack Mezirow, Stephen Brookfield, and Robert Smith. Each educator worked through many obstacles to establish his theories against an unbelieving conservative field of educators. They all explored relationships and utilized human and material resources that were available while learning from their experiences. The relationship between the constructs of creativity and adult education are convincingly reliable. Thus, the process of FREEdom and how adults learn is similar.

Eduard C. Lindeman

Lindeman, a professor of philosophy and a democratic visionary, understood that a interrelationship must exist between theory and practice. He was several decades ahead of his time in understanding the importance of small group relationships. The key word for Lindeman (1926/1961) was participation or exploring relationships (p. xvi). He believed that the resource of highest value in adult education is the learner's experience and that people do not change until they physically participate in reflective doing. Lindeman's vision of adult education diversifying

from the classroom into the lives of working people creating a vision of education emerging from people's productive tasks or experience. "If learning is to be revivified, quickened so as to become once more an adventure, we shall have need of new concepts, new motives, new methods; we shall need to experiment with the qualitative aspects of education" (p. 4). Lindeman's creative contribution in adult education was active participation.

Paul Bergevin

Paul Emil Bergevin was an early adult education leader with a distinguished career in adult education as an innovative administrator, researcher, methodologist, educator, and intellectual leader. Bergevin dropped out of high school to help support his widowed mother. Purdue University admitted him under special arrangement, and he completed a bachelor and master's degree in industrial engineering and economics. This negates the common assumption that those with less formal schooling are less fortunate and less successful (Simonton, 1984, p. 64).

Participation or exploring relationship training embodied his goal to enable adults to work together and to be responsible for self and others. After World War II,

Bergevin developed one of the early graduate programs in adult education and built it into a major program. He was one of the first professors to develop and publish a book on adult education as a university field of study (Hughes, 2004). He believed that adults have untapped resources of creative potential, that freedom promotes the discovery and productive use of talents, and that adults should find ways to express themselves constructively and creatively. Bergevin's creative contribution was utilizing adult education as a tool for democracy.

J. Roby Kidd

J. Roby Kidd was a humanist, teacher, and adult educator. In 1935, he began his work with adults at the YMCA. This experience initiated his lifelong interest and commitment to the education of underprivileged adults and learner-centered education. The idea that learning in adulthood is related to one's appropriate roles as defined by society's expectations has a long history in adult education. Kidd (1973) explored how changes in social roles can be related to learning activities by outlining a taxonomy suggested by Malcolm Knowles that takes into account not only roles but also the competencies related to

those roles (Merriam & Caffarella, 1999, p. 121).

Two of Kidd's major contributions to adult education were (a) to challenge the theory of age and the adult's ability to learn and (b) to start a movement toward rejection of experimental traditional research as the sole method of knowledge concerning adult learning. Shortly before his death, Kidd (1983) predicted a "paradigm perspective transformational shift" from adult education to adult learning (p. 527). Moving from a field of practice toward a field of study and concentrating on the individual learner opened new areas of inquiry such as self-directedness and individual development to the field of adult education (Fellenz & Conti, 1989, p. 1). Kidd's creative contribution in adult education was placing the emphasis on learning not teaching.

Malcolm Knowles

Until mid-twentieth century, adult educators relied on research in psychology and educational psychology for an understanding of adult learning. This research was behavioristic in design, and often insights about adult learning were predicted from research with children or research that placed adults under the same conditions as

children (Knowles, 1970). By rejecting traditional thought and theories, some adult educators began to consider whether adult learning could be distinguished from learning in childhood. A concept of something new and useful drove the effort. The question of whether adults could learn was put to rest, and the new focus of what was different about adult learning emerged. Thus, the formal concepts of andragogy and self-directed learning materialized.

In 1968, Malcolm Knowles proposed "a new label and new technology" of adult learning to distinguish it from preadult schooling (p. 351). Andragogy became a rallying point for those trying to define the field of adult education as separate from other areas of education. Andragogy is based on four assumptions about the adult learner and on two other assumptions that were added later (Knowles, Holton, & Swanson). These assumptions transferred the teaching-learning process from being teacher centered to being learner centered. Knowles' design of andragogy suggested that the classroom climate should be one of adulthood, both physically and psychologically. Knowles's creative contribution was andragogy that created a learner-centered focus for the field of adult education.

Myles Horton

Myles Horton in 1932 founded Highlander Folk School in Monteagle, Tennessee. A student of Reinhold Niebuhr at Union Theological Seminary, Horton had traveled to Copenhagen to observe firsthand the Danish folk schools which became the model for the Highlander. His philosophy of people solving their problems by coming together and sharing experiences was the heart and soul of his teachings. Horton strongly believed in peer education, in people becoming their own experts, in people doing their own research and testing their ideas by taking action and analyzing their actions, and in learning from their experiences (Adams, 1975). Highlander was committed to education for social change and to workers' rights to organize. Horton began his educational work in Tennessee with farmers, miners, woodcutters, and mill hands. He developed labor education classes, and Highlander was instrumental in the Congress of Industrial Organizations (CIO) organizing drive in the South.

Horton also concentrated Highlander's resources and programs on school desegregation, voter education, citizenship schools, and the Civil Rights Movement. Highlander's work has received national and international

recognition. In 1982, Bill Moyers interviewed Horton for a Public Broadcasting Service documentary praising Highlander's unique teaching for helping people to discover within themselves the courage and ability to confront reality and change it (Moyers, 1990). In 1983, Horton was nominated for a Nobel Peace Prize for its historic role in providing education on behalf of human rights in the region (Gage, 2004). Also in 1990, which was the year of Horton's death, his autobiography, The Long Haul, won the Robert F. Kennedy Book Award (Broadway, 2002). Horton's creative contribution in adult education was to teach people how to empower themselves in order to achieve democracy.

Paulo Freire

Paulo Freire has been particularly popular with informal educators with his emphasis on dialogue and his concern for the oppressed. Paulo Freire, the Brazilian educationalist, has left a significant mark on thinking about progressive practice. Freire was able to draw upon and weave together a number of strands of thinking about educational practice and liberation. Freire made a number of important theoretical innovations that have had a considerable impact on the development of educational

practice and on informal education and popular education in particular.

Five aspects of Paulo Freire's work have a particular significance. First, his emphasis on dialogue has struck a very strong chord with those concerned with popular and informal education. Second, Paulo Freire was concerned with praxis or action that is informed and linked to certain values. Dialogue was not just about deepening understanding but was part of making a difference in the world. Third, Freire was concerned with conscientization or developing consciousness but at a level that is understood to have the power to transform reality (Taylor, 1993, p. 52). Fourth, Freire's insistence on situating educational activity in the lived experience of participants has opened up a series of possibilities for the way informal educators can approach practice. Fifth, a number of informal educators have connected with Freire's use of metaphors drawn from Christian sources (INFED, 2004). Freire's creative contribution in adult education was empowerment through conscientization.

Jack Mezirow

The theory of transformative learning creatively

developed by Mezirow has evolved "into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton 1994, p. 22). Centrality of experience, critical reflection, and rational discourse are three common themes in Mezirow's theory (Taylor 1998), which is based on psychoanalytic theory (Boyd & Myers, 1988) and critical social theory (Scott 1997). For learners to change their meaning schemes, which as their specific beliefs, attitudes, and emotional reactions, they must engage in critical reflection on their experiences, which in turn leads to a perspective transformation (Mezirow 1991, p. 167). "Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and, finally, making choices or otherwise acting upon these new understandings" (p. 167).

As described by Mezirow (1997), transformative learning occurs when individuals change their frames of reference by critically reflecting on their assumptions and beliefs and

consciously making and implementing plans that bring about new ways of defining their worlds. Mezirow's theory describes a learning process that is primarily "rational, analytical, and cognitive" with an "inherent logic" (Grabov, 1997, pp. 90-91). Mezirow's creative contribution in adult education was the development of the concept of perspective transformation.

Stephen Brookfield

Stephen Brookfield's work in the area of adult learning provides a critique of Knowles' principles of learning as well his own unique insights into how adults learn. He examined four major areas that have been the major focus of adult learning research since World War II: self-directed learning, critical reflection, experiential learning, and learning to learn. Self-directed learning is defined by Brookfield (1986) as the process by which adults take control of their learning, in particular how they set their own learning goals, locate appropriate resources, decide on which learning methods to use, and evaluate their progress.

Critical reflection is a relatively new concept in the field of adult learning. It is described by Brookfield (1986) as "learning in which adults come to reflect on their

self-images, change their self-concepts, question their previously internalized norms (behavioral and moral), and reinterpret their current and past behaviors from a new perspective" (Brookfield, 1986, pp 213-214).

Experiential learning emphasizes experience as the defining feature of adult learning and that adult education as the continuing process of evaluating experiences (Lindeman, 1926/1961, p. 85). Experiences are neither innocent nor free from the cultural contradictions that inform them (Brookfield, 1986).

"Learning to learn" is the skill of learning in a range of different situations and through a range of different styles. It is often seen as an overall purpose for adult education programs and should be seen as a lifelong learning project. Brookfield also believes that connections to learning in childhood and adolescence and to the interpretive filters, cognitive frames, and cultural rules that are formed during these periods should be explored (Tuijnman, 1995). Brookfield's creative contribution in adult education was to provide a greater understanding of the roles of self-direction and critical reflection in adult learning.

Robert M. Smith

Most research on the topic of learning how to learn has been conducted by Robert M. Smith who has drawn together educators from the United States, Scotland, Australia, Germany and Sweden to work on theory development in this area. Smith was a professor in the Adult and Continuing Education program at Northern Illinois University (NIU). Smith's tenure at NIU Smith developed a course on learning how to learn that was an experiential learning laboratory. The course continues as a foundational course in the master's and doctoral degree program in Adult and Continuing Education at NIU.

In an era of extreme change, lifelong learning has become a necessity. It is impossible to function in society just with knowledge learned early in life (Smith, 1982, p. 15). Smith emphasized the need for adults to learn how to learn with power in whatever educational situation encountered by possessing or acquiring the knowledge and skill to learn effectively. When learners possess the necessary knowledge and skill, they have learned how to learn. The three components of the learning how to learn idea are the following: learners' needs (what learners need

to know for success in learning), learning style (individualized preferences and tendencies that influence their learning), and training (organized activity, or instruction, to increase people's competence in learning). (p. 17). Smith suggests four critical characteristics of adult learning are needed to master the concept of learning how to learn. These are that (a) adults are characterized by a special orientation to life, living, education, and learning; (b) have a relatively rich experience base to draw on and cope with; (c) have a different developmental changes and task than pre-adults; and (d) have their own brand of anxiety and ambivalence (pp. 38-47). Smith's creative contribution in adult education was the conceptualization of lifelong learning as learning how to learn.

Summary

The purpose of illustrating the usage of FREEdom by prominent adult educators illustrates the relationship connecting the characteristics of creativity for musicians with adult education. Each adult educator utilized FREEdom, or some form of it, to elevate the domain by exploring innovative theoretical concepts. Thus, being flexible by working through obstacles and improvising; using available

resources; working with other educators; and applying, analyzing, and evaluating experiences generated new approaches for teaching and learning. Their creativity was not seen solely as the product of individuality, but rather it was the result of a dynamic interaction among the creative individual, the domain in which they worked, and the set of experts in the field that assessed the quality of work(s) that was executed (Csikszentmihalyi, 1996). Since the constructs and themes of creativity for musicians and adult education are similar, then the assumptions and theories used for teaching adults could comfortably be accepted as a learning preference by musicians.

Creativity and Adult Education Relationships

Creativity is meaningful only in the context of a system that judges it, and what is creative in one context may not be in another (Csikszentmihalyi, 1996; Sternberg & Lubart, 1991). Creativity must be viewed as a property of an individual as that individual interacts with one or more systems (Sternberg, 2001, p. 361). The system of adult education uses many principles to distinguish its theoretical foundation. Creativity and adult education share similar concepts; however, the concepts are measured by

different theoretical approaches.

There is extensive literature on adult learning. In most writing on adult education, learning is the predominant orientation focused on the individual learner and how to facilitate that persons learning (Merriam & Caffarelle, 1999, p. xii). Theoretical approaches to creativity research related to adult education are rare; however, creativity research and adult education do share similar concepts with extensive research in the area of problem-solving and critical thinking. The constructs of creativity and adult education are similar.

Challenges

The creative challenge is one of the most fundamental processes of lateral thinking; it is a challenge of uniqueness. "The creative challenge assumes that something is done in a certain way for reasons that existed before and may or may not still exist" (De Bono, 1992, p. 314). Flow, the episodes when life is heightened and when one is deeply involved and mental energy is highly focused, tends to occur when persons are confronted, or choose to confront themselves, with demanding opportunities for challenges, which they feel capable of matching with their skills

(Csikszentmihalyi, 1997, p. 25). The essence of creativity is meeting challenges in an imaginative, original and effective way (Ruggiero, 1998, p. 89).

There are important concepts that can enhance adult competence.

Acknowledging risk taking and challenge involved in the learning accomplishment can enhance adult competence. When adults deliberately choose a challenging learning goal, the process of learning becomes even more special because they have knowingly placed themselves under the risk of failure. This condition adds to what they can learn about themselves. With further reflection, they can build their self-confidence and experience the merit of their abilities and effort. (Wlodkowiski, 1985, p. 238)

Challenges may also be viewed from the teacher's perspective. Teachers of adults face personal, institutional, and cultural challenges as they attempt to teach; these include: other people's opinions, lack of experience, need for personal involvement, and the unpredictable nature of learning (Apps, 1996, p. 108).

Insight/Discovery

Sometimes creative thinking is referred to as intuitive thinking, insight development, lateral thinking or simply creativity (Apps, 1978, p. 120). Insight is brought about by alterations in pattern sequences that lead to provocative

stimulation (De Bono, 1970, p. 47). Lateral thinking is the process of using information to initiate creativity and insight reconstruction (p. 7). Lateral thinking is closely related to insight, creativity, and humor. All four processes have the same basis that makes lateral thinking an insight tool. Insight and humor both involve the restructuring of patterns (pp. 9-11).

Insight presumably occurs when subconscious connections between ideas smoothly align to suddenly expose awareness (Csikszentmihalyi, 1996, p. 104). There are four main conditions that are important during the insight stage of the process: (a) the person must pay attention to the developing work, (b) one must pay attention to one's goals and feeling, (c) the person must keep in touch with domain knowledge, (d) and one must listen to colleagues in the field (p. 105).

Any search or inquiry must proceed in part through the examination of certain hunches, guesses, notions, or hypotheses (Kidd, 1973, p. 38). Discovery is "in its essence a matter of rearranging or transforming evidence in such a way that one is enabled to go beyond the evidence to additional new insights" (Bruner, 1965, pp. 607-608).

Bruner's instructional theory is based on the act of learning that involves "three almost simultaneous processes: (1) acquisition of new information...; (2) transformation, or the process of manipulating knowledge to make it fit new tasks; (3) and evaluation, or checking whether the way we have manipulated information is adequate to the task" (Knowles, 1984, p. 25). "Learning how to learn involves possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters" (Smith, 1982, p. 19).

Concentration

Concentration is not so much something done to prevent distraction and interruption as it is something done to overcome distraction and interruption when they occur. The secret of efficient thinkers is not that they experience fewer distractions but that they have learned to deal with them more quickly and more effectively than inefficient thinkers do (Ruggiero, 1998, p. 10). The pursuit of a creative problem is rarely easy. It is impossible to accomplish something that is truly new and worthwhile without struggling with it (Csikszentmalyi, 1996, p. 117).

Many of the peculiarities attributed to creative

persons are really just ways to protect the focus of concentration so that they may lose themselves in the creative process (p. 120). To pursue mental operations to any depth, a person has to learn to concentrate attention. Without focus, consciousness is in a state of chaos. Unless one learns to concentrate and is able to invest the effort, thoughts will scatter without reaching any conclusion (Csikszentmihalyi, 1997, p. 27).

Education would serve people better if basic skills like concentration were taught rather than just learning facts that soon change or are out of date (Keck, 1992, p. 210). During the process of learning, various things can happen to interfere with attention or understanding (Fellenz & Conti, 1993, p. 9). Learning means maintaining a constant tension between focusing on the specific and maintaining a concern for broader, often more abstract ideas (Apps, 1996, p. 89).

Curiosity

Curiosity is not a quality reserved for the gifted few. The people who make breakthroughs and achieve insights are those who wonder, and their wondering extends to the causes of things: how they became to be the way they are and how

they work (Ruggiero, 1998, p. 95-101). "The successful scientists often are not the most talented, but the ones who are just impelled by curiosity. They've got to know what the answer is" (Schawlow, 1982, p. 42).

Adult education is supposed to renew curiosity which somehow have been extinguished. Psychologist H. I. Day developed a test of curiosity as a means of identifying adults who are lacking in formal education but may do well in further academic courses. However, the achievement in defining what curiosity is in terms of behavior is sometimes questioned and some believe it has not reached the stage where it is of much practical guidance to adult educators (Kidd, 1973, p. 39).

Curiosity seems to be particularly important in individually guided adult learning projects. Tough (1971) interviewed 35 adults and found that satisfaction of curiosity was the second most common reason for engaging in adult learning projects. Many adults cite curiosity as a reason for engaging in adult learning (Carp, Peterson, & Roelfs, 1974). Curiosity is not an accidental isolated possession; it is a necessary consequence of the fact that an experience is a moving, changing thing, involving all

kinds of connections with other things (Dewey, 1916, p. 209).

Feedback

Immediate feedback makes it clear how well the person is doing. In some creative activities where goals are not clearly set in advance, a person must develop a strong personal sense of what needs to be accomplished. What makes immediate feedback valuable is the symbolic message it contains: that the person has succeeded in one's goals. Such knowledge creates order in consciousness and strengthens the structure of the self (Csikszentmihalyi, 1990, p. 57).

A presented standard indicates to students what level they are to achieve, and effective feedback information indicates whether or not they have met the standard and what they still must do to reach it (Levin & Long, 1981, p. 23). Belief in the ability to alter behaviors, one's desire to achieve certain goals, and awareness of the means by which one can achieve predetermined standards are powerful factors in learning and development. "If there ever arises the 'teachable moment' in class discussion or other instructional situations, it is that period following a pupil's response to a question" (Nuthall, 1976, p. 280).

Feedback has been used synonymously with the term "knowledge of results". Some educators believe that this term does not convey the full meaning of feedback. Feedback information can be effective if it is followed by corrective procedures which correct weaknesses of learning and instruction (Levin & Long, 1981, p. 15). Thorndike (1931) suggests that knowledge of results improves student performance only when the student is motivated, when the knowledge of results is informative, and when the student is helped to correct the mistakes. Bruner (1968) emphasized that student learning depends "on the knowledge of results at a time when and at a place where the knowledge can be used for correction" (p. 50).

Motivation

Intentions arise in consciousness whenever a person is aware of desiring something or wanting to accomplish something. Intentions are also bits of information, that are shaped either by biological needs or by internalized social goals. This manifestation of intentionality is also defined by other names, such as instinct, need, motivation, drive, or desire (Csikzentmahalyi, 1990, p. 27). Certain extrinsic motivators, which support competence development and deep

involvement in the work, can add to intrinsic motivation and creativity through a process of motivational synergy (Amabile, 1996, 334).

While some variation can be expected from situation to situation, learners usually exhibit consistency in the energy and enthusiasm with which they go forth to educational settings and participate in learning activities (Smith, 1982, p. 68). For each adult who is engaged in an educational program, there are many similar adults who are not sufficiently motivated to do so. Motivation is important not only for initial participation but for learning and application as well (Knox, 1986, p. 128). Expectations and motivation are affected by one's reaction toward the subject or skill to learned (Smith, 1982, p. 69).

Learners may relate to unmet needs or unwanted conditions in life and to the pursuit of positive growth toward desired goals. As learners proceed toward meeting unmet needs, resolving unwanted conditions, or reaching desired goals, motives for learning tend to change in relation to any feelings and experiences of success or failure and satisfaction or dissatisfaction (MacKeracher, 1996, p. 79).

Enjoyment

"Enjoyable events occur when a person has not only met some prior expectation or satisfied a need or a desire but also gone beyond what they have been programmed to do and achieved something unexpected, perhaps something even unimagined before" (Csikszentmihalyi, 1990, p. 45). To gain personal control over the quality of experience, one needs to learn how to build enjoyment into what happens daily.

It is important to see adult motivation as operating on integrated levels where the most important level is success, volition, value, and enjoyment. During this process, the adult has experienced the learning as pleasurable (Wlodkowski, 1985, p. 8). To help adults successfully learn what they value and want to learn in an enjoyable manner, it is essential to motivate learning and instruction. Continuing adult learners have goals that they want to achieve, and they find the process of learning enjoyable, significant and worthwhile for its own sake (Houle, 1961, p. 15). Houle's (1961) research discovered three groups of learners: goal-orientated, activity-orientated, and learner-orientated (pp. 15-16). All of the participants in Houle's study shared basic similarities; they were all continuing

learners, they had goals, they enjoyed participating, and they liked to learn (p. 29).

Lindeman (1926/1961) expressed concerns for adult artists who were artistically inhibited and not able to express their works with creative freedom and enjoyment.

The essence of enjoyment is critical appreciation. To appreciate is to assimilate, to appropriate, to make one's own. Appreciation is creative, not passive. But one valid reference for artistic standards exists, namely, the individual who appreciates, enjoys. Every attempt to formulate collective norms must fail by reason of individual variations. (p. 63)

Problem-Solving

Problem-solving has been a traditional dimension for the use of creative thinking. If the standard approaches do not provide solutions, then the need for creative thinking is necessary. Even when the standard approach can provide explanations, creative thinking is explored to find better solutions (De Bono, 1992, p. 69). As in many creative process problem-solving models, the term problem is conceived broadly as any task that an individual seeks to accomplish. Thus, artists who seek to express their feelings, scientists who seek to understand a complex phenomenon, and people who seek to solve conflicts in their

everyday lives are all considered to be engaged in problem solving (Runco & Dow, 1999, pp. 433-435).

In most problem-solving situations, adults are trying to fit new ideas and ways of acting into earlier patterns of thinking and doing. If they are unable to change their earlier thought patterns, chances of being able to frame and act on problems from different perspectives are remote, if not impossible. Metacognition is also viewed as the highest level of mental activity and is especially needed for complex problem-solving (Bruner, 1993, p. 67).

Most adult learning begins because of a problem or responsibility, or at least a question or puzzle (Tough, 1971, p. 72). Adults come into an educational activity largely because they are experiencing some inadequacy in coping with current life problems. As Sternberg (1990) points out, "Two differences between real-life and academic problems relate to recognizing and defining the problem. In real life, learners must learn to recognize that a problem exists. Once recognized, the learner then must accurately define the problem" (Ghost Bear, 2001, p. 16). Research generally supports the notion that most adults who voluntarily undertake a learning project do so more in the

hope of solving a problem than with the intention of learning a subject (Cross, 1981, p. 189). The adult enters into education with a problem-centered orientation to learning (Knowles, 1973, p. 58). One way of looking at a learning project is to see it as a problem-solving process:

1. The ability to develop and be in touch with curiosities.
2. The ability to formulate questions, based on one's curiosities.
3. The ability to identify the data required to answer the various kinds of questions.
The ability to locate the most relevant and reliable sources of the required data.
4. The ability to select and use the most efficient means for collecting the required data from the appropriate sources.
5. The ability to organize, analyze, and evaluate the data so as to get valid answers to questions.
6. The ability to generalize, apply, and communicate the answers to the questions raised. (p. 58)

Adult learners are frequently organized in order to accomplish some objective besides learning. Many are problem-solving groups; they meet in order to study an issue and to uncover suitable options for resolving a particular problem. The mutual study and exchange of ideas is important, but the ultimate objective is to move the group to action (Seaman & Fellenz, 1989, p. 36).

Adult education is usually a form of social

intervention that often begins with a problem that needs to be solved. "Identification of the problem has important ethical implications because it determines selection of the target to which change efforts are directed" (Kelman & Warwick, 1978, p. 13). The problems to which adult educators respond tend to be identified by those who have a value perspective not necessarily shared by the target population. Nevertheless, adult education is given public support when the public can see the connection between education and the solution to a threatening situation (Griffith & Fujita-Starck, 1989, p. 172).

Another form of problem-solving is transformative research that can take place in any community. Transformative research has been practiced in a variety of locations for numerous years. "Transformative research is the process of generating knowledge for the purpose of addressing social problems" (Conti, Counter, & Paul, 1991, p. 31). Transformative researchers engage in an alternating continuous process of reflective-activity related to knowledge which people create within their local context and to the actions taken to solve pressing social problems (Guba & Lincoln, 1981).

Paulo Friere (1970) redefined development and redirected the efforts of many adult educators working for social change. He organized "circles of culture" that engaged the oppressed in dialogues regarding their own problems and their underlying causes (p. 13). Skillful facilitators led discussions of generative themes conceptualized as pictures that reflected community problems. "People must abandon the educational goal of deposit-making and replace it with the posing of the problems of human beings in their relations with the world" (p. 61).

Thus, adult education and creativity share similarities with constructs and concepts that both emphasize observing and researching the learner's practices during the learning process.

Summary

FREEdom has been identified as a major component to begin the creative process. The constructs of creativity were used to progress educational theories of learning to innovative and useful concepts of how adults learn. Prominent adult educators unconsciously applied creative learning preferences to establish their theories and

assumptions of adult education. The musicians in this study discovered that the creative journey cannot begin without making the decision to pursue the creative act by (a) being flexible to overcome obstacles, (b) identifying and filtering legitimate resources, (c) exploring diverse relationships, and (d) discovering a means to shape experiences. The field of adult education continues to transform adults towards success by utilizing creativity concepts as the heart and soul of learning how to learn.

Thus, the general relationship of freedom, music, and adult learning has been the nucleus of transformational empowerment. Many diverse groups have used music to learn how to become free. For example, the freedom of slaves by learning songs to communicate (Monjo, 1970), the freedom of mine workers singing to break silence and enhance their culture while learning to organize (Adams, 1975), the freedom of Native Americans learning story-telling songs to preserve and maintain traditions (Public Broadcast Service, 2003) and the freedom of African Americans singing songs of faith and hope for equal opportunities during the Civil Rights Movement (Fraizer, 1965). When asked to assess the impact of the legendary song We Shall Overcome for which

Highlander holds the copyright, Myles Horton said:

Oh Lord...you see the Irish scrapping, you see people in Chile, they use it in Chile, it was used in Cuba...all the schools sing it in China--it is used everywhere. I don't know of any song of that kind that is so widespread. (Moyers, 1990, p. 6)

Accessing advanced flexibility, resources, explored relationships, and experience (FREEdom) are not possible without possessing mental and physical freedom. Creative FREEdom is more than the invention of new and useful products. FREEdom is educating people to extend themselves beyond the boundaries of traditional feeling, thinking, and doing. Without FREEdom the system remains the same; however, with FREEdom our dreams are brought to reality. I am reminded of this constantly as I see my oldest son, Jay, fight for his musical identity and freedom within the music business. I also can hear the young voice of my son, Marcus, practicing for his next Martin Luther King, Jr. speech competition and repeating Dr. King's memorial words from his August 28, 1963, speech delivered on the steps at the Lincoln Memorial in Washington D.C.:

When we allow freedom to ring, when we let it ring from every village and every hamlet, from every state and every city, we will be able to speed up that day when all of God's children, black men and white men, Jews and Gentiles, Protestants and

Catholics, will be able to join hands and sing in the words of the old Negro spiritual, "Free at last! free at last! thank God Almighty! we are free at last!" (Torricelli & Carrol, 1999, p. 237)

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APPENDICES

Appendix A

Consent Form

Musicians' Learning Styles, Learning Strategies, and Perceptions of Creativity

Consent to Participate

The purpose of this study is to describe the learning styles, learning strategies, and the perceptions of creativity for musicians who study at Berklee College of Music. To do this, we need your help in completing the Learning-Style Inventory, Assessing the Learning Strategies of AdultS, and the Personal Survey about Music. It will take about 15 minutes to complete these. Although you will not receive any immediate and direct benefits from this study, this study can help educators better understand how music students learn in a school like Berklee. If you consent to participate in this study, your name will not be associated with this research in any way. It is very important that you realize that:

1. Your participation in this study is voluntary,
2. You will not be penalized in any way if you choose not to participate, and
3. You are free to withdraw your consent to participate in this study at any time.
4. Your involvement in this project will only involve completing the Learning-Style Inventory, Assessing the Learning Strategies of AdultS, and the Personal Survey about Music.
5. It is not anticipated that you will suffer any risks of discomfort or inconvenience from this participation.
6. No incentives will be provided for participation in this study.

The information you provide will remain confidential and will not be available to anyone other than the researcher.

If you have any questions about this project, you may contact William Hagans, who is the researcher, at (918) 660-0660. In addition, you may contact Sharon Bacher, IRB Executive Secretary, Oklahoma State University, 415 Whitehurst Hall, Stillwater, OK 74087, Phone: (405) 744-5700.

My signature below confirms that I have read and understand the contents of this consent form.

Print Name

Signature

Appendix B
Creativity Survey

Survey

1. When I create new music, I:
 - a. do not have many new musical ideas.
 - b. have many musical ideas to chose from.
 - c. do not create new music.

2. When I think of many new musical ideas, it is:
 - a. hard for me to separate the good ideas from the bad.
 - b. easy for me to separate the good ideas from the bad.
 - c. not important for me to think about separating the good ideas from the bad.

3. When my musical ideas do not work, I;
 - a. throw the idea away and start with another idea.
 - b. put the idea aside and come back to it later.
 - c. continue working on the idea until I get it right.

4. I believe that musicians should:
 - a. not focus on creativity.
 - b. build on musical ideas that others have used.
 - c. create original musical ideas.

5. I will practice my musical activity today because I:
 - a. sometimes do not practice much because it is not necessary.
 - b. was told to do it.
 - c. have a goal to reach.

6. When I hear music performed by other I that I like, I:
 - a. Think about how the composition was put together.
 - b. do not think about anything; I just listen to the music.
 - c. do not directly pay attention to the music.

7. A virtuoso musician must have:
 - a. money.
 - b. performance experience.
 - c. talent.

8. I enjoy learning music because:
 - a. I am motivated to learn.
 - b. I am expected to learn.

- c. No. I do not enjoy learning music.
9. I participate in music for:
- a. the opportunity to make money.
 - b. the chance to become famous.
 - c. the love and enjoyment of it.
10. When I monitor my musical progress:
- a. I like to know right away how I am doing.
 - b. it does not matter if I know how I am doing.
 - c. I do not monitor my progress.
11. After I perfect a challenging musical activity, I:
- a. reflect on my musical accomplishments.
 - b. move to the next challenge without reflecting on my accomplishments.
 - c. do not reflect at all.
12. When I practice a musical activity, I:
- a. concentrate only on what I am doing.
 - b. concentrate on many things.
 - c. do not concentrate.
13. When I am faced with a challenging musical activity, I:
- a. avoid beginning the activity if it is too hard.
 - b. start the activity but I usually do not finish it.
 - c. continue with it if I know I can accomplish it.
14. When I practice music, I:
- a. practice for a set amount of time.
 - b. lose track of time.
 - c. do not practice.
15. When I perform a musical activity, I am:
- a. in total control of the musical activity.
 - b. not in total control of musical activity.
 - c. not concerned with being in control of the musical activity.
16. Even though music is a competitive profession, I:
- a. Only became interested in music by accident.
 - b. made a decision to pursue music anyway.
 - c. am only learning music for a hobby.

Appendix C

ATLAS Instrument

ATLASTM

AsseSSing **T**he **L**earning **S**trategies of **A**dult**S**

ATLAS

(Assessing The Learning Strategies of AdultS)

Directions: The following colored cards have statements on them related to learning in real-life situations in which you control the learning situation. These are situations that are **not** in a formal school. For each one, select the response that best fits you, and follow the arrows to the next colored card that you should use. Only read the cards to which you are sent. Continue this process until you come to the Groups of Learners sheet. Along the way, you will learn about the group in which you belong. Follow the arrow to start.



When considering a new learning activity such as learning a new craft, hobby, or skill for use in my personal life,

I like to identify the best possible resources such as manuals, books, modern information sources, or experts for the learning

I usually will not begin the learning activity until I am convinced that I will enjoy it enough to successfully finish it.

Go to Red Card

Go to Gray Card

Printed on BLUE card stock

It is important for me to:

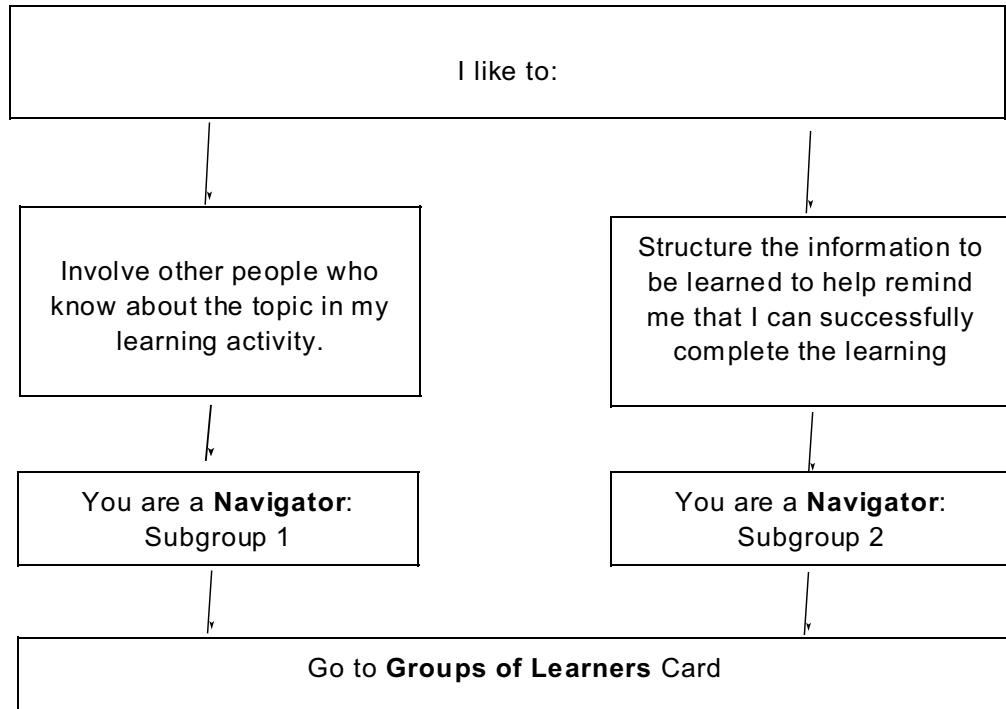
Focus on the end result
and then set up a plan with
such things as schedules
and deadlines for learning
it.

Think of a variety of ways
of learning the material.

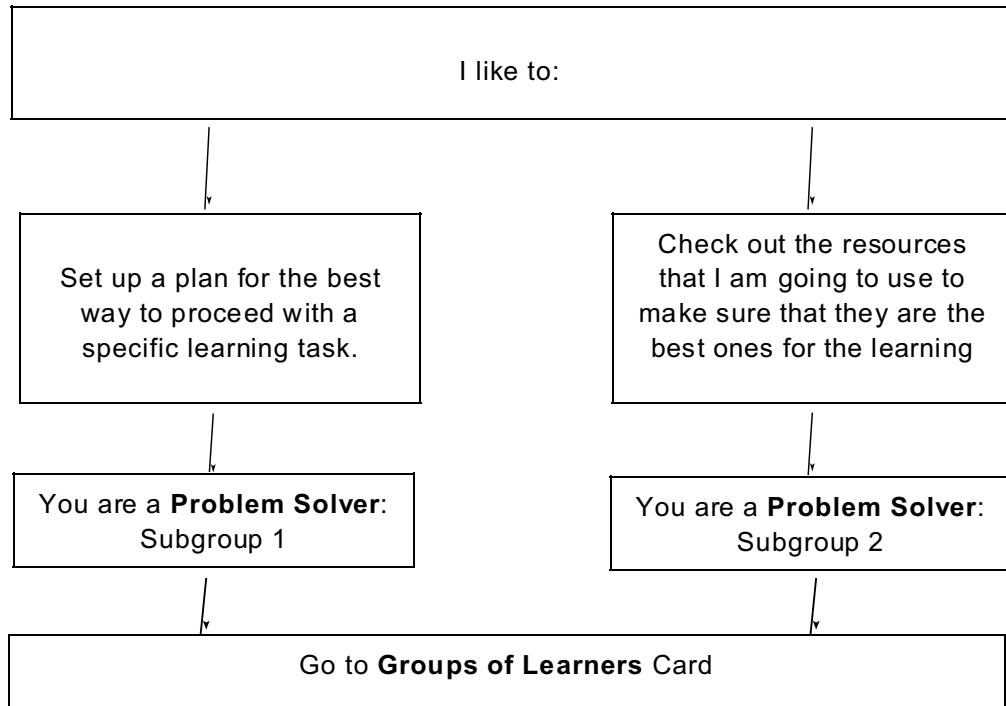
Go to Yellow Card

Go to Green Card

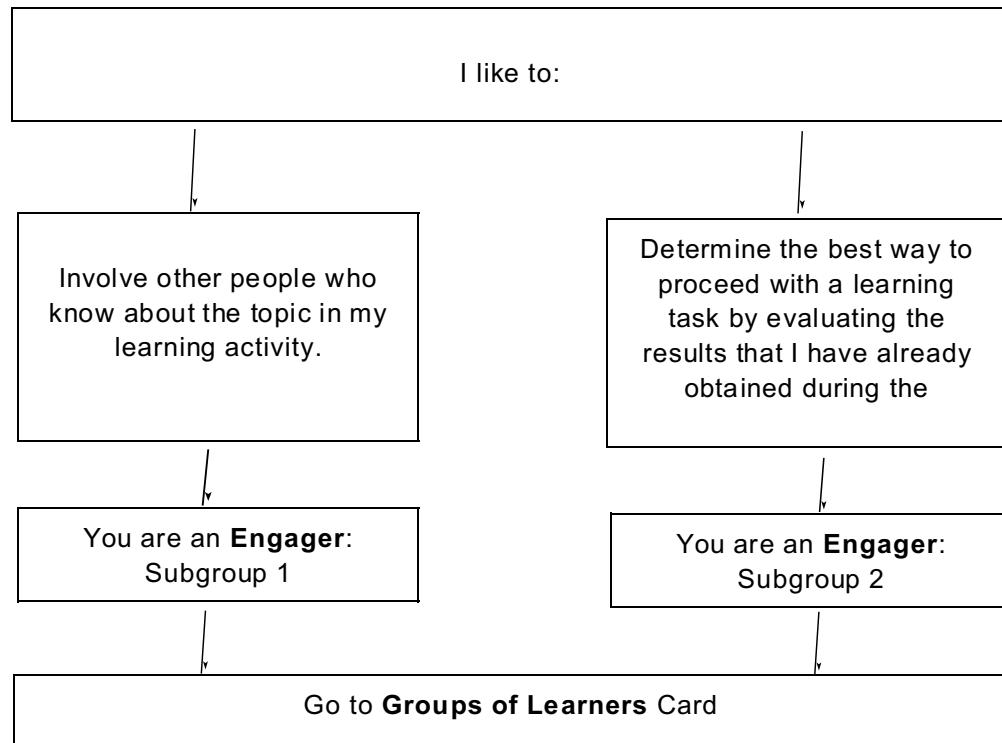
Printed on Red card stock



Printed on YELLOW card stock



Printed on GREEN card stock



Printed on GRAY card stock

Navigators

Description: Focused learners who chart a course for learning and follow it. Subgroup 1 likes to use human resources while Subgroup 2 is more concerned with the organization of the material into meaningful patterns.

Characteristics: Focus on the learning process that is external to them by relying heavily on planning and monitoring the learning task, on identifying resources, and on the critical use of resources.

Instructor: Schedules and deadlines helpful. Outlining objectives and expectations, summarizing main points, giving prompt feedback, and preparing instructional situation for subsequent lessons.



Problem Solvers

Description: Learners who rely heavily on all the strategies in the area of critical thinking. Subgroup 1 likes to plan for the best way to proceed with the learning task while Subgroup 2 is more concerned with assuring that they use the most appropriate resources for the learning task.

Characteristics: Test assumptions, generate alternatives, practice conditional acceptance, as well as adjusting their learning process, use many external aids, and identify many of resources. Like to use human resources and usually do not do well on multiple-choice tests.

Instructor: Provide an environment of practical experimentation, give examples from personal experience, and assess learning with open-ended questions and problem-solving activities.

Engagers

Description: Passionate learners who love to learn, learn with feeling, and learn best when actively engaged in a meaningful manner. Subgroup 1 likes to use human resources while Subgroup 2 favors reflecting upon the results of the learning and planning for the best way to learn.



Characteristics: Must have an internal sense of the importance of the learning to them personally before getting involved in the learning. Once confident of the value of the learning, likes to

maintain a focus on the material to be learned. Operates out of the Affective Domain related to learning.

Instructor: Provide an atmosphere that creates a relationship between the learner, the task, and the teacher. Focus on learning rather than evaluation and encourage personal exploration for learning. Group work also helps to create a positive environment.

Appendix D
Institutional Review Board
Approval Form

Oklahoma State University
Institutional Review Board

Protocol Expires: 11/17/2004

Date: Tuesday, November 18, 2003

IRB Application No ED0453

Proposal Title: How Learning Styles and Learning Strategies Relate to Creativity for Musicians

Principal
Investigator(s):

William W. Hagans
10611 East 28th Ct.
Tulsa, OK 74129

Gary J Conti
206 Willard
Stillwater, OK 74078

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact me in 415 Whitehurst (phone: 405-744-5700, colson@okstate.edu).

Sincerely,



Carol Olson, Chair
Institutional Review Board

VITA

William Winser Hagans

Candidate for the Degree of

Doctor of Education

Thesis: MUSICIANS' LEARNING STYLES, LEARNING STRATEGIES,
AND PERCEPTIONS OF CREATIVITY

Major Field: Occupational and Adult Education

Biographical:

Education: Graduated from Vailsburg High School, Vailsburg, New Jersey; received Bachelor of Music degree in Jazz Composition and Arranging from Berklee College of Music, Boston, Massachusetts in June 1980; received Master of Human Relations degree from the University Oklahoma, Norman, Oklahoma in June 2001. Completed the requirements for the Doctor of Education degree with a major in Occupational and Adult Education at Oklahoma State University in December 2004.

Experience: Employed by Tulsa Community College as Out of School Youth Counselor for the Continuing Education Youth Enrichment Program.

Professional Memberships: American Association for Adult & Continuing Education, American Society for Training and Development, Association for Human Resources Development, International Society of Performance Improvement, Broadcast Music Incorporation, and the American Society of Composers, Authors and Publishers.