The Synergies, Efficacies and Strategies Involved in Teaching Creativity and Leadership Together: A Grounded Theory

Jo A. Yudess
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The Synergies, Efficacies and Strategies Involved in Teaching Creativity and Leadership Together: A Grounded Theory

Abstract
Leadership researchers and authors cite creativity as an important leadership skill. Creativity researchers and authors cite leadership skills developed as the leader internalizes cognitive, rational and semantic problem solving skills. In this study, eight faculty members at Buffalo State College who uniquely teach creativity and leadership together were interviewed regarding their opinions about how and why creativity and leadership are taught in the same program and they were invited to explore the connections between the two subjects. The resultant qualitative data was analyzed using Atlas.ti to develop a grounded theory describing what is needed to teach creativity and leadership together effectively and the synergies that result from that practice. Findings include showing creativity as a strong component of effective leadership, a definition of Creative Leadership, the importance of a creative environment for both creativity and leadership and the need to develop a creative mindset along with the skill set and tool set usually imparted to leaders through training and education programs. Implications for the program at Buffalo State involved additions of more interpersonal skills and balancing the subjects appropriately. Implications for other programs emphasize the creative environment and the need for time, education, a skilled faculty and patience for the synergies to develop.

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The Synergies, Efficacies and Strategies Involved in Teaching Creativity and Leadership Together: A Grounded Theory

By

Jo A. Yudess

Submitted in partial fulfillment of the requirements for the degree Ed.D. in Executive Leadership

Supervised by

Dr. Guillermo Montes
Dr. John Mavromatis

Ralph C. Wilson, Jr. School of Education
St. John Fisher College

August, 2010
Dedication

To my mother, Rubye Howard, who said if I could read, I could do anything. I’m sorry she passed away before I began this journey. I know how proud she would be.

To my daughters, Rebecca Reilly and Jennifer Ponicki, who read chapters and made suggestions and used their knowledge of creativity (and of me) to cheer me on. To my son-in-law, John Ponicki and my granddaughter Jaime Ponicki who made countless Sunday breakfasts and listened to me patiently.

To my dad, Richard Howard, and my brother, Burl McCullough, who were encouraging, supportive and proud through the whole process.

To Dr. Ruth B. Noller (in memoriam) and Dr. Sidney J. Parnes who began the program in Creative Studies at Buffalo State and who were my teachers, my mentors, and my friends.
Biographical Sketch

Jo Yudess is an adjunct instructor at the International Center for Studies in Creativity at Buffalo State College in Buffalo. She is the owner and president of United Innovations, an organization development consulting firm primarily involved in organization development consulting, staff training, problem solving, facilitation, and process consultation in the United States and Brazil. She is Managing Editor of the Journal of Creative Behavior, a publication of the Creative Education Foundation. She holds a Bachelor of Science degree in Secondary Education, Chemistry and Mathematics (1963); and a Master of Science degree in Creative Studies and Personnel Administration (1984), both from Buffalo State College. She began doctoral studies at St. John Fisher College in the summer of 2008 in the Ed. D. program in Executive Leadership. She pursued her research in Creativity and Leadership under the direction of Dr. Guillermo Montes and received the Ed. D. degree in 2010.
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There are so many people to thank for their assistance, support and encouragement in the process of writing this dissertation. It is my hope that if your name does not appear, and it should, you will forgive my momentary lapse.

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And to the other friends and extended family in the United States, Brazil, and India, you have always believed in me and I truly appreciate you.
Abstract

Leadership researchers and authors cite creativity as an important leadership skill. Creativity researchers and authors cite leadership skills developed as the leader internalizes cognitive, rational and semantic problem solving skills. In this study, eight faculty members at Buffalo State College who uniquely teach creativity and leadership together were interviewed regarding their opinions about how and why creativity and leadership are taught in the same program and they were invited to explore the connections between the two subjects. The resultant qualitative data was analyzed using Atlas.ti to develop a grounded theory describing what is needed to teach creativity and leadership together effectively and the synergies that result from that practice. Findings include showing creativity as a strong component of effective leadership, a definition of Creative Leadership, the importance of a creative environment for both creativity and leadership and the need to develop a creative mindset along with the skill set and tool set usually imparted to leaders through training and education programs. Implications for the program at Buffalo State involved additions of more interpersonal skills and balancing the subjects appropriately. Implications for other programs emphasize the creative environment and the need for time, education, a skilled faculty and patience for the synergies to develop.
# Table of Contents

Dedication ........................................................................................................................... ii  
Biographical Sketch ........................................................................................................... iii  
Acknowledgements ............................................................................................................ iv  
Abstract .............................................................................................................................. vi  
Table of Contents .............................................................................................................. vii  
List of Tables ...................................................................................................................... x  
List of Figures .................................................................................................................... xi  
Chapter 1: Introduction ....................................................................................................... 1  
  Background ...................................................................................................................... 4  
  The Research Problem .................................................................................................. 10  
  Research Question ........................................................................................................ 13  
  Significance of the Study ............................................................................................... 13  
  Limitations ..................................................................................................................... 15  
  Summary ........................................................................................................................ 15  
  Definition of Terms........................................................................................................ 16  
Chapter 2: Review of the Literature .................................................................................. 20  
  The Study of Creativity ................................................................................................. 20  
  The Study of Leadership ............................................................................................... 47  
  The Relationship between Leadership and Creativity ................................................... 62  
  Summary of the Literature.............................................................................................. 77
## List of Tables

<table>
<thead>
<tr>
<th>Item</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2.1</td>
<td>Cognitive and affective skills for the thinking skills model</td>
<td>29</td>
</tr>
<tr>
<td>Table 2.2</td>
<td>Affective skills underlying all steps of the thinking skills model</td>
<td>30</td>
</tr>
<tr>
<td>Table 2.3</td>
<td>Definitions for Creative Problem Solving: The thinking skills model</td>
<td>44</td>
</tr>
<tr>
<td>Table 2.4</td>
<td>Five practices and ten commitments of leadership</td>
<td>49</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>List of Master’s courses in Creative Studies</td>
<td>90</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Categorized list of codes</td>
<td>93</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>Item</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 2.1</td>
<td>Creative Problem Solving flowsheet</td>
<td>26</td>
</tr>
<tr>
<td>Figure 2.2</td>
<td>Creative Problem Solving plain language or component model</td>
<td>27</td>
</tr>
<tr>
<td>Figure 2.3</td>
<td>Creative Problem Solving: The thinking skills model</td>
<td>28</td>
</tr>
<tr>
<td>Figure 2.4</td>
<td>Problem construction example</td>
<td>35</td>
</tr>
<tr>
<td>Figure 2.5</td>
<td>Characteristics of admired leaders</td>
<td>50</td>
</tr>
<tr>
<td>Figure 2.6</td>
<td>Types of creative leadership</td>
<td>66</td>
</tr>
<tr>
<td>Figure 2.7</td>
<td>Leadership skills map</td>
<td>71</td>
</tr>
<tr>
<td>Figure 2.8</td>
<td>Change leader development model</td>
<td>74</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>Descriptive model: Development of creative leadership definition</td>
<td>140</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>Synergies from teaching creativity and leadership together</td>
<td>144</td>
</tr>
</tbody>
</table>
Chapter 1: Introduction

Leadership, creativity, innovation and change are especially critical elements in the success of organizations in current (2010) economic conditions. A report by the New Commission on the Skills of the American Workforce (2007) stated the importance of creativity for the future:

It is a world in which comfort with ideas and abstractions is the passport to a good job, in which creativity and innovation are the key to the good life, in which high levels of education — a very different kind of education than most of us have had — are going to be the only security there is. (pp. 6-7).

Mulcahy (2009), recently retired CEO of Xerox, stated:

Sure, like most companies, we're being extraordinarily tough on costs, taking painful actions that impact our valuable people, and prioritizing cash to offset declines in revenue. But we're also being as extraordinarily disciplined in decisions on where to invest, with innovation high on the list. (p. 69)

Some organizations are not comfortable with the word creativity, but they are very concerned and involved with innovation. They recognize that change is inevitable and they need to keep up. They strive to hire qualified people to act in a leadership capacity to lead them through innovation and change. They do not see that creativity is necessary for all these functions to take place, instead considering creativity in old definitions that include the arts and unfocused generative activity. Harnessing the energy
that creativity brings to the efforts of leadership, innovation and change is a new concept for them.

Kouzes and Posner (2007) stated that the job of a leader is change and that leaders have to be innovators to help their organizations function in the global economy. One of the five practices they defined as necessary for exemplary leadership was challenging the process; going against what has always been done, disrupting the status quo. This included the commitments of searching for new opportunities and experimenting and taking risks. These are seen as a definition of innovation and change according to Oke, Munshi, and Walumbwa (2008) who stated, “Innovation can be seen as representing a change in the status quo and has been defined as involving the discovery of new things and the commercialization of such discoveries” (p. 64).

Leaders need creativity skills to prepare for, promote and produce the innovation and change that lead to company success. Andrew and Sirkin (2006) found that to get the maximum payback for innovation, companies needed to organize around the innovation process giving people a supportive environment and time to be creative. Ditkoff (2008) stated that innovation does not occur without creativity, that it is the catalyst, the front end of the innovation process. Bienkowski (2008) reported that when Beth Comstock took over General Electric and was charged with changing the corporate culture to a more innovative one, she focused on creativity, bringing in creativity consultants, design experts and futurists. Puccio, Murdock, and Mance, (2007) stated,

If organizational leaders do not nurture the basic elements that support creative behavior, it is unlikely that their organizations will bring about creative change,
whether that is an innovative product, social change, educational reform, enhanced level of human service, and so on. (p. 24)

Leadership skills and creativity skills are both needed for an effective leadership performance. Innovation, change, reform, future planning and other manifestations of creativity don’t occur with knowledge alone (Boyatzis & Saatcioglu, 2007). Learning how to use the knowledge to make things happen while encouraging and developing the people the leader works with are important keys to success. Using a cognitive, rational, and semantic process to produce deliberately creative outcomes in groups is the aim of creativity education. In this work the crossover skills between creativity and leadership will be explored. Teaching the two subjects together would seem to add value to both.

This paper describes a grounded theory research study that examined what those who teach both creativity and leadership believe are the synergies between creativity and leadership theories and how they can be connected in coursework for graduate students. This is an area of research that is relatively unique so a holistic approach to improved understanding of teaching the two together contributing to a theory about it can add to the intellectual conversation on the subject. This chapter explores the background, purpose and significance of the study, and defines the terms that will be used.

In this work, creativity will be defined as “the ability to make useful, novel associations” (Gryskiewicz, Holt, Faber, & Sensabaugh, 1985, p. 102). This is a widely accepted definition of creativity. Leadership will be defined as “a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2007, p. 3). Synergy will be defined as “when the group outcome is greater than the sum of the individual contributions” (Northouse, 2009, p. 106).
Background

The academic study of creativity began when Guilford (1950) spoke to the American Psychological Association. He identified the lack of creativity research by stating that it constituted less than two-tenths of one percent of articles listed in Psychological Abstracts up to that date. At the time Guilford spoke the current focus of psychologists was on high intelligence as the determinant in creative behavior.

Sternberg and Lubart (1996) pointed out that between 1975 and 1994 only about one-half of one percent of the articles listed could be categorized as about creativity. Research was slow in creativity while research in intelligence blossomed.

Addressing the American Psychological Association, Guilford (1950) said “psychologists have seriously neglected the study of the creative aspects of personality” (p. 454). Until then, creativity was thought of by common people as a myth, a phenomenon that just happened sometimes, a mystery that could not be defined or explained, a bit of magic that one is or is not born with, madness that is weird or abnormal, or some merriment for fun or play (Fox & Fox, 2004; Isaksen, 1987). In contrast to the theories that creativity was determined by intelligence, Guilford believed creativity was an important function of human thinking on its own and that the focus on high intelligence as the primary factor identifying creative people was limiting the study of the domain. He believed that a full factor analysis of the creative personality would reveal factors such as sensitivity to problems, ideational fluency, flexibility or non-pattern thinking, ideational novelty, synthesizing ability, analyzing ability, reorganizing or redefining ability, and evaluating ability (p.454). He undertook some of this research and challenged other psychologists to study the domain as well.
Brain research is increasingly supporting the Guilford hypothesis that creativity and intelligence are inter-related but separate cognitive domains in normally developing humans. That work has continued and today there are seven refereed journals (Journal of Creative Behavior, Creativity Research Journal, Creativity and Innovation Management, International Journal of Thinking and Problem Solving, The International Journal of Thinking Skills and Creativity, Psychology of Aesthetics, Creativity and the Arts, and Thinking Skills and Creativity) dedicated to the field in addition to articles appearing in many psychological, educational, design, engineering, and social science refereed journals as well as popular press articles:

- **Management**: Gong, Wang and Farh (2009) found a significant positive relationship between employee creativity and work performance.
- **Psychology**: Kaufman and Agars (2009) suggested that high stakes selection testing based solely on cognitive elements was not the only or best way to predict success and that creativity was an important example of what was missing.
- **Popular press – news**: Lash (2009) described creativity as the most important criterion required for a new Executive Director of a nursing home based on the board member expectations.
- **Science**: Moore, Bhadelia, Billings, Fulwiler, Heilman, Rood and Gansler (2009) researched the white matter volume and the size of the corpus collosus of the brain and how they affected divergent thinking ability, an important creativity skill.
- **Industry**: Penaluna and Penaluna (2009) discussed the need for small businesses to work with creative people from the design industry to improve their business images.
Education: Stables (2009) called for creativity education in helping students learn the work of environmental sustainability.

It would appear, from the scope of articles available, that creativity has become important in every aspect of our lives from the personal to the organizational to the community to the individual work domains and to the function of the brain.

In organizational terms, creativity has been identified as a skill needed by leaders. Researchers identify the needs for leaders to describe visions of the future (Kouzes & Posner, 2007), to innovate to sustain companies (Buckingham & Coffman, 1999), to use and encourage creative problem solving skills in their teams (Reiter-Palmon & Illies, 2004), to be able to identify desired outcomes and paths for achieving them (Puccio, Murdock, & Mance, 2007), to be efficient in encoding information for problem construction (Mumford, Zaccaro, Harding, Jacobs, and Fleishman, 2000), to be adaptable in the face of multiple ambiguous priorities while being a catalyst for change (Goleman, Boyatzis & McKee, 2002), and to synthesize with wisdom and intelligence as a model of leadership bringing success in many fields (Sternberg, 2003, 2005, 2006a, 2007, 2008).

Puccio, Murdock, and Mance (2007) included creativity in their definition of leadership, “We define leadership as the process of positively influencing people, contexts, and outcomes through a deliberate creative approach that is applied to open-ended, novel, and ambiguous problems – both opportunities and predicaments” (p. xvi).

Mumford, et al. (2000) built and studied a Leadership Capacity Model from which they concluded that leadership performance is directly related to the ability to use creative problem solving to resolve complex problems. Just as creativity and intelligence were related, but separate, cognitive domains, creativity and leadership are inter-related in
ways not completely understood. Placing creativity in the definition of leadership may simplify a complex relationship.

Leadership is a complex subject with each decade bringing new theories and definitions of the term. Northouse (2007) reported that in the early 20th century, great man or trait theories focused on identifying the qualities of current and past great leaders. They postulated that a person was either born with these qualities or was not: leaders are born, not made. In the middle of the 20th Century, researchers focused on a skills approach to define effective leadership. Skills were defined as the abilities to use knowledge and competencies to achieve goals and objectives. The difference between traits and skills was that skills could be developed. In other words, someone could be trained to be a leader.

During approximately the same time period, the style approach to leadership, emphasizing the leader’s behaviors, was developed. Behaviors were studied in two categories: task behaviors and relationship behaviors expanding the view of leadership to what a leader did or how the leader acted rather than traits or skills possessed by the leader. The style approach did not define or demonstrate how the leader’s task and relationship behaviors connected consistently to performance outcomes such as productivity, morale, or job satisfaction for followers.

As a deeper understanding of leader behavior emerged, the focus shifted to different kinds of situations with the expectation that the leader’s style would change to adapt to the situation being faced, an approach called situational leadership. Effective situational leadership depended on the ability to correctly diagnose the situation and correctly adopt the appropriate style that fit those conditions.
A number of other situational theories emerged; some failed to provide actionable suggestions. For instance, the path-goal theory of leadership was similar in that leaders were expected to adopt a style that would meet the motivational needs of the workers, a very complicated task due to the variety of individual differences in those needs. Another example, contingency theory, postulated that the leader should be chosen for having a style that correctly matched the situational context. This was difficult to implement because a leader is typically chosen to deal with various and multiple situations requiring different leadership styles. Leader-member exchange theory, a different approach, focused on building high quality relationships between the leader and the group members resulting in high performance, involvement and motivation. However, it resulted in the formation of in-groups who functioned well in this style and out-groups who did not thus raising questions of fairness.

Finally, two modern approaches are highly influential. Transformational leadership involved leaders who were considered change agents with a vision of the future, who could understand and adapt to the needs of the group, who would act as good role models, and who would empower the group to meet high standards. Distributed leadership, also known as hybrid, included the democratic division of labor in small groups that all interact to produce a holistic and emergent structure with leadership in many of the roles. These approaches are consistent with the previously cited research identifying the skills leaders need (Buckingham & Coffman, 1999; Goleman, Boyatzis & McKee, 2002; Kouzes & Posner, 2007; Mumford, Zaccaro, Harding, Jacobs, and Fleishman, 2000; Puccio, Murdock, & Mance, 2007; Reiter-Palmon & Illies, 2004; Sternberg, 2003, 2005, 2006a, 2007, 2008).
This work will focus on the aspect of leadership that requires management of change and innovation. It will use the transformational leadership theories as described by Kouzes and Posner (1987, 2002) which present skills that are considered teachable, learnable, and measurable; and the transformational leadership theories of Bass and Riggio (2006) which link the skills to higher order values. The work will include the distributed leadership theories described by most recently by Gronn (2008) involving a complex heterarchical interrelationship between groups with different responsibilities interacting with, affecting and influencing each other in some way with leadership being a flexible role anyone might take consistent with organizations wanting people to work in teams.

These works also connect to creativity as in Kouzes and Posner’s (2002) discussion of management of change involving the need for creativity in finding that imagination is a characteristic of admired leaders. The concepts of cognitive and affective thinking skills are seen in their tenets of visioning, personifying values, enlisting and strengthening others, fostering collaboration, recognizing contributions, and celebrating values and victories. Tolerance for risk, error and ambiguity and problem solving abilities are seen in their search for opportunities and the commitment they ascribe to leaders to experiment and take risks. Facilitation of group problem solving is seen in finding a common purpose and fostering collaboration. Bass and Riggio (2006) discusses transformational leadership in terms of how the leader affects the followers: increasing their awareness of task importance and value, getting them to focus first on team or organizational goals, rather than their own interests, activating their higher-order needs and creativity. Distributed leadership proposes that
leadership is a role for everyone in an organization, independent of formal title, and recognizing each individual’s ability to be creative in that role.

The Research Problem

Leadership researchers point to the need for creativity. Buckingham and Coffman (1999) spoke of creativity as the need for leaders to break configurations in favor of more effective or appealing ones. They also said leaders need to find patterns in data, play out alternative scenarios, paint word pictures of the future, and develop a problem solving framework. These topics are inherent in the study of creativity (Isaksen & Parnes, 1985).

Goleman, Boyatzis and McKee (2002) said that leaders seize or create opportunities, seek performance improvements, meet goals, adapt to change, challenge the status quo, collaborate with and develop others, and adapt to multiple demands and ambiguities. Kouzes and Posner (2007), in addition to the discussion of their work above, believed leaders should search for opportunities and envision the future by imagining exciting possibilities. Sternberg (2007) discussed eight types of creative leadership (seen in Figure 2.6) with each requiring a different level of creativity.

Creativity researchers point to the connection between creativity and leadership. Mumford, Zaccaro, Harding, Jacobs, and Fleishman (2000) developed a skills-based cognitive model of organizational leadership and said that leadership depends on the capability for formulating and implementing solutions to novel, ill-defined problems. Puccio, Murdock and Mance (2007) discussed change, the attempt to bring about a relevant idea with a degree of novelty, as the connecting link between creativity and leadership. Reiter-Palmon & Illies (2004) concluded that leaders could facilitate and promote creative problem solving in their groups by encouraging idea and data
generation, sharing information and knowledge, and providing time for the problem solving process to happen. Leaders needed to understand the cognitive requirements of creative problem solving to do that. It has been suggested (Sternberg, Jarvin, & Grigorenko, 2009) that creativity, intelligence and wisdom lead to success in work and life and that good leaders are creative, intelligent and wise (Sternberg, 2006).

Puccio, Murdock and Mance (2007) offered a practical approach for teaching change leadership in *Creative leadership: Skills that drive change*. Each chapter in the book outlined creativity concepts and skills and then made suggestions for applying what was learned. Additionally, they suggested an organized learning plan for developing a creative change leader as seen in Figure 2.8.

A goal of graduate management education is to prepare people to be effective managers, leaders and professionals in their organizations (Boyatzis & Saatcioglu, 2007). Management skills, those involving planning, organizing, directing, coordinating and controlling, are most frequently seen in MBA and other graduate programs. Some MBA programs offer a few leadership courses with more emphasis on visioning the future and systems thinking, developing people and other interpersonal competencies, and emotional intelligence or intrapersonal skills (Boyatzis & Saatcioglu, 2007). Leadership skills are explicitly taught in some colleges and universities through human resource or organizational development programs, and domain-specific leadership programs such as nursing and educational leadership. Creative thinking skills are explicitly taught in several colleges and universities. It is rare to find a graduate program that specifically combines leadership and creativity skills. Thus, we know very little about how creativity and leadership should be combined, both pedagogically and substantively. In most of the
graduate programs examined, the focus is on creativity or on leadership; but not on both. Chapter Two will review how creativity and leadership are included in the world college and university creativity programs (Appendix A) and how they are included in the world top ten MBA programs (Appendix B).

A purpose in planning a grounded theory study is to explore an area that is unique, an area with no current theories available. The purpose of this study was to develop a grounded theory of any synergies found by teaching creativity and leadership together based on the experiences of those who teach these subjects in an integrated way at the graduate level. In a search of worldwide graduate programs, only five were comparable to the program in the study making it a unique situation. No theories of teaching creativity and leadership together were found. Grounded theory methods will develop concepts and theory that may be tested in subsequent research, as well as provide generalizable conclusions about the nature and degree of linkage between the two subjects.

The sample was the faculty of the Creative Studies department at Buffalo State College, where the first Master’s Degree in Creative Studies and the first minor in Creative Studies for undergraduates were begun almost forty years ago. Currently, the graduate program is taught in two formats, on campus and by distance learning, and two phases, a certificate program in Creativity and Change Leadership and the Master’s Degree in Creative Studies, each one year in length. There is a minor in Creative Studies and a minor in Leadership for undergraduates. Several courses in these minors overlap. The study involved interviews of the faculty members in these programs who have the
rather unique background of teaching a series of courses in creativity, change and leadership over an extended period of time.

Research Question

The central research question is: What synergies, if any, are involved in teaching creativity and leadership together? From responses, further questions will probe for detail. The methods will be explained in detail in Chapter Three. An additional question is: In what ways do leadership and creativity complement and/or contrast with each other?

Significance of the Study

The study has theoretical implications for further research on the relationship between creativity and leadership. Puccio, et al. (2007) have proffered that the people with the right skills, knowledge and personal traits utilize an effective process within a supportive environment to yield an outcome or product that will likely be more creative, that is, new and useful. This product does not become an innovation, a positive change, until it is successfully implemented in the organization. This suggests that the development of creativity skills in leaders, including teaching them a problem solving process; will improve their leadership skills and impact their success, and that of others, in the organization.

While current research, including Puccio, et al. (2007) posits that creativity and leadership are linked, the nature of the link in terms of instruction is currently unclear. Understanding how the subjects are taught together may further clarify and increase the connections, point out synergies in teaching them together, and build a case for additional curricular overlap. Are the connections theoretical, practical, and/or useful in teaching
the subjects? How useful might these connections be outside the world of education? In what aspects of each subject are the connections seen? Are there areas of each subject where the connections are not seen? If there is a synergistic effect, what is it? How does it function? How could it be used to improve education in the characteristics of leadership and/or creativity? If a synergistic effect is not seen, what changes, if any, might leaders experience when creativity training is part of their curriculum? What changes, if any, might people studying creativity find in their leadership skills?

Since this study was limited to one college while comparing it to others around the world (Appendix A), this research may spark further studies into the similarities and differences between programs across institutions that identify themselves as teaching creativity and leadership, creative leadership, or creative skills for leaders. Are these programs the same, similar, or different? What is the reason for combining creativity and leadership in the way they have done?

The study compares how the teachers in the study view their experiences in teaching creativity and leadership together as different from times when they have taught one or the other subject alone. They consider how they feel about any additional preparation that might be needed to teach on dual subjects or whether any effects found make it easier to teach. Defining links between creativity and leadership may provide a new specificity which can lead to course development, new teaching materials, and a basis for studies of effectiveness when using a grounded theory developed for teaching the courses together. As Terego (2009) observed, it would seem that educators should welcome these so-called soft skills, such as high-order thinking skills and adding discovery to education, that have been missed for so many years.
This work may challenge instructors of creativity to more fully explore the current leadership theories such as those of Goleman, Boyatzis and McKee (2002), Kouzes and Posner (2007), and Sternberg (2007), and to incorporate more information on leadership into their programs. Conversely, for instructors of leadership and management, it may inspire them to incorporate a creative problem solving model such as that suggested by Puccio, Murdock and Mance (2007) into leadership training. For instructors who have the old view that creativity is not a usable skill, a strong connection between leadership and creativity may change their emotional response to the creativity field.

Limitations

This study is limited by the views of the sample group because they are all from the same faculty and have worked together in an established program for a period of time in the same location. This fact is a benefit in terms of knowledge and experience; it is a limitation in terms of varied approaches and the potential for group-think. It was important to keep the individuals separate in the interviews and discourage discussion between them so that a variety of opinions was more likely. Future studies might sample faculties of other programs such as those examined and discussed in Chapter Two. As the study examines the program from the point of view of the instructors, it is also limited by not including the views of the students, or the outcomes they have experienced except from the instructors point-of-view and their perceptions of comments they have received.

Summary

In this chapter, the discussion has covered the background, the research question, and the potential significance of the grounded theory study. In Chapter Two, theories will be presented on creativity, creative problem solving and teaching creativity.
Theories will be presented on leadership, on leadership style and on teaching leadership. Additionally, theories on the connections between leadership and creativity will be examined. While some connections will be made between the theories presented as background in Chapter Two, those connections or those theories did not drive or block the research process. If a grounded theory is to be developed it is on the basis of the data collected in the study, not a reworking of previous theories. The theories in Chapter Two will form a base of information to compare with the data collected in the interviews and help with coding the data.

Chapter Two presents a comparison of degree curricula involving creativity, leadership, leadership and creativity, and MBA programs. The program being taught at Buffalo State will be compared to other creativity and leadership programs around the world. Chapter Three focuses on the methods used for the study, outlining the cognitive interviewing process, the data collection and coding, and the method of construction of the grounded theory. Chapter Four presents the results of the data collection and the grounded theory. Chapter Five explicates the conclusions, implications and limitations of the study from a retrospective viewpoint.

*Definition of Terms*

The use of language as a medium of communication is often perilous as there are different meanings for many words and different connotations for different people and contexts. For the purposes of this dissertation, the following meanings were in effect.

- Affective skills: basic emotional abilities that help people value, trust and respect themselves, ideas and other people; communicate effectively, set goals, control anger, be responsible, be fair, see beyond the obvious, and be honest.
• Change leadership: the process of awareness of need for change, initiating the change, stimulating motivation for change in workers, facilitating problem solving related to the change, directing activities leading to productive change, stabilizing the change, celebration of successful change, and follow up to ensure ongoing support and success for the change (Kotter & Cohen, 2002; Puccio, Murdock & Mance, 2007; Matthew, 2009; Kouzes & Posner, 2007).

• Change: To transform a process, product, person or environment into a more useful or productive one.

• Cognitive skills: basic mental or intellectual abilities that help people think, reason, make connections, solve problems, study, learn, analyze, recall information, concentrate, evaluate, and interpret.

• Convergent thinking: An affirmative evaluation of multiple options to aid in decision making.

• Creative Problem Solving: Any original or updated version of the CPS process originally defined in the 1950’s by Osborn and Parnes (Parnes, Noller & Biondi; 1977) and updated visually and semantically several times through 2007 (Puccio, Murdock & Mance, 2007). Several models are described in Chapter Two. Subsequent versions have retained the name “Creative Problem Solving.” These versions utilize a balance of divergent and convergent thinking skills to add deliberate creativity in solving problems to ensure that the result is both new and useful. The basics of the process Osborn and Parnes defined (the steps of objective finding, fact finding, problem finding, idea finding, solution finding and acceptance finding utilizing divergent and convergent
thinking in each step) have remained the same over the years while language, graphic
depictions and explanations have evolved for clarity and precision.

- Creative thinking: the outcome of using a process of ordinary thinking skills
  that produces an extraordinary result, (Weisberg, 2006).

- Creativity: “the ability to make useful, novel associations” (Gryskiewicz,
  Holt, Faber, & Sensabaugh, 1985, p. 102). The thinking processes involved in
  recognizing the need for something new and generating, developing, and implementing
  ideas in response.

- Creativity education: the academic pursuit of knowledge about the field,
  research in the field, and development of skills within the deliberate search for new and
  relevant solutions to complex, ill-defined situations using a concrete set of principles and
  procedures based in theoretical and empirical research.

- Creativity training: the development of skills to assist the deliberate search for
  new and relevant solutions to complex, ill-defined situations using a concrete set of
  principles and procedures based in theoretical and empirical research without the focus
  on the knowledge, field development and research expected in an academic setting.

- Divergent thinking: Generation of multiple options while deferring judgment.

- Facilitation: the process of helping groups, or individuals, to learn, find a
  solution, or reach a consensus, without imposing or dictating an outcome. Facilitation
  works to empower individuals or groups to learn for themselves or find their own
  answers to problems without control or manipulation. (BNET Business Dictionary,
  retrieved 9/7/09).
• Facilitator: “the leader who draws out, reinforces and thus facilitates the creative learning, development and problem solving of the people with whom he or she is working” (Parnes, 1985, p. 1).

• Innovation: Implementation and successful application of new products or services.

• Leader: Leadership involves power by influence. A leader is effective at doing the right things (Puccio, Murdock & Mance, 2007).

• Leadership: “Leadership is a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse, 2007, p. 3).

• Manager: Management involves power by position. A good manager is efficient at doing things right (Puccio, Murdock & Mance, 2007).

• Problem solving: a deliberate thought process leading to a resolution of an issue, a challenge, or a gap blocking goal attainment.

• Risk taking: taking an action perceived as having unpleasant, expensive, undesirable or dangerous consequences.

• Synergy: “when the group outcome is greater than the sum of the individual contributions” (Northouse, 2009, p. 106).
Chapter 2: Review of the Literature

In this chapter, the research reviewed is the development of creativity study, the Creative Problem Solving process model, and creativity training. Also reviewed are leadership theory, leadership style, and leadership training. The review includes the connections between creativity and leadership, and degree bearing programs in creativity and in leadership.

The Study of Creativity

Models of problem solving and creative process have a short history compared to studies of math or science. Graham Wallas (1926) presented one of the first models of the creative process consisting of 4 stages:

1. Preparation – the problem is analyzed and investigated in a conscious systematic way,

2. Incubation – moving away from concentration on the problem and allowing unconscious mental processes to explore and look for options,

3. Illumination – the sudden appearance of an idea that seems certain and is connected with the events around the original issue. This idea is preceded by a vague impression called intimation that mental processes are coming together.

4. Verification – the idea is examined, tested and modeled into a final form which can be implemented.

Osborn (1948) explored how people generated ideas, and he introduced brainstorming, considered a major tool in creative processes. But, creativity was not
studied seriously by the scientific world until 1950 when Guilford, in his presidential address to the American Psychological Association, said “psychologists have seriously neglected the study of the creative aspects of personality” (Guilford, 1950, p. 454).

Older views of the nature of creativity had described a spontaneous process that sometimes just happened. Researchers began to examine creativity as a deliberate cognitive process, a choice to have a new and relevant solution. Osborn saw it as a method of problem solving in which a creative answer was encouraged by the process. Problem could also mean a challenge or opportunity. Osborn (1953) described his Creative Problem Solving Process simply, and it is similar to the Wallas (1926) model. He defined it as balanced iterations of divergent thinking and convergent thinking for different purposes which led a person through a complete problem solving process:

1. Think up all phases of the problem.
2. Select the sub-problems to be attacked.
3. Think up what data might help.
4. Select the most likely sources of data.
5. Dream up all possible ideas as keys to the problem.
6. Select the ideas most likely to lead to solution.
7. Think up all possible ways to test.
8. Select the soundest ways to test.
9. Imagine all possible contingencies.
10. Decide on the final answer.

*The Creative Studies Project.* From 1969 to 1971, Parnes and Noller (1972 a, b, c; 1973) conducted The Creative Studies Project, an interdisciplinary study of the nature
and nurture of creative behavior, building on the work Osborn began. The results were to be field tested and translated into educational programs. They used a random sample of 150 experimental and 150 control subjects from 350 students who had applied for the program. Coursework in Creative Studies was used as an intervention. The courses concentrated on awareness development, creative problem solving, synectics (a metaphorical process that encourages problem analysis and the use of analogies to create distance from the current situation allowing unusual solutions to emerge), and creative analysis (general semantics) processes. The hypotheses tested were that students who completed four semesters of Creative Studies courses would perform significantly better than comparable students who did not receive the training on:

1. tests of creative application of academic subject matter;
2. non-academic achievement in areas calling for creative performance;
3. certain personality factors associated with creativity; and
4. selected tests of mental ability, problem-solving, and job performance.

They defined creativity as a function of knowledge, imagination and evaluation and drew data from testing methods available at the time to examine intelligence, personality, psychological makeup, motivation, interests, skills, abilities, and biographical data. Tests utilized included (a) The Stony Brook Coping Problems, (b) The Adjective Check List, (c) The Alpha Biographical Inventory, (d) The Myers-Briggs Type Indicator, (e) The Minnesota Multi-Phasic Inventory, (f) The Strong Vocational Interest Blank, and (g) specially prepared attitudinal questionnaires prepared by the researchers and given only to the experimental subjects.
The plan was to determine if changes would occur in the creativity skills, in the creative application of subject matter to other academic classes, in creative behavior outside the classroom, in development of 58 skills from the Structure-of-the-Intellect model (Guilford & Hoepfner, 1971) and in attention to tasks and thinking processes as a result of taking the Creative Studies classes. Additional detail of the 58 Guilford model tests is presented in Appendix C.

The results were mixed though most showed a difference between the two groups favoring the experimental subjects; it was not always significant at the standard < 1 level. Most of the information from the Minnesota Multi-Phasic and the Strong Vocational Interest Blank remained consistently comparable between experimental subjects and control subjects after the intervention. On 9 of 13 ability tests, the experimental subjects were lower than the control subjects initially, indicating a potentially greater ability for the control subjects. This difference was tested each semester and remained comparable throughout the experiment. On 24 of 27 semantic tests used, experimental subjects were superior to control subjects, with 16 of these statistically significant. These indicated a greater ability to process information in the form of verbal communication associating meanings with words. In the behavioral area, experimental subjects outperformed control subjects on eight of nine tests, with four of these being statistically significant. These were equated with the ability to process human interactions and non-verbal action by self and others into meaningful data. Experimental subjects outperformed control subjects on one symbolic test and significantly higher than control subjects on seven of ten tests of cognition, nine of 14 tests of divergent production, four of eight tests of convergent production, and the ability to generate multiple criteria for evaluating ideas. These
indicated a greater ability to comprehend information, develop options for logical alternatives and search for logical imperatives. On the other tests the experimental subjects scored within the margin of error of the two groups.

After one year, there were no significant differences in student reported improvements in such survey items as “Participate more actively in discussions” and “Better able to cope with problems.” In the second year 29 per cent more students reported on the survey that they participated more actively in discussions a “good deal” or a “great deal” and 55 per cent more reported they were better able to cope with problems at the good deal or great deal level. These percentage increases were statistically significant. See additional information on results in Appendices D and E.

In summary, the experimental subjects scored higher on real-life situational tests, and on the behavioral and semantic sides of the Guilford tests. Cooperating English teachers reported significant differences in test scores of experimental subjects over control subjects. Students reported large gains in their own productive creative behavior and that these courses had helped them improve in other courses. Year two results were significantly higher than year one results indicating the value of continued education in the field and a growing tendency to be more productive in non-academic fields was noted.

Over all, from the evidence of the differences between experimental subjects and control subjects on tests of cognitive thinking, divergent and convergent production, real-life problem solving exercises, improved academic performance in other subjects and student reported gains in ability Parnes and Noller (1972 a, b, c; 1973) concluded that creativity was (1) teachable and (2) learnable. For those who felt creativity was
something that just happens sometimes, this was an important result. It also justified an educational program to offer the skills involved in creativity to all students.

*Development of the Creative Problem Solving (CPS) process.* The process described by Osborn has evolved through changes in the model from 1953 through 2007. In the Osborn (1953) model, creativity was addressed in every stage of the process by allowing specific amounts of time for brainstorming (divergent thinking) before using criteria to select information (convergent thinking) to use in the next stage. Later, through the work of Sidney Parnes (1992), Osborn’s earlier models were adapted and clarified and it became known as the Osborn-Parnes model:

1. Mess or objective finding – looking at the overall situation to determine an area in which to begin
2. Fact-finding – examining the chosen area for what is known or data that are needed,
3. Problem-finding – reframing/redefining the issue to get many new perspectives and perceptions, and choosing one promising problem statement
4. Idea-finding – generating alternatives to the current view of the problem,
5. Solution-finding – evaluating alternatives, considering potentials and consequences,
6. Acceptance-finding – developing the best alternatives to ensure implementation.

Another adaptation was reported by Isaksen and Treffinger (1985) to show a diagram or flowsheet for the Creative Problem Solving process (See Figure 2.1). Osborn’s model, the Osborn-Parnes Model and the CPS Flowsheet were visually linear,
but the Creative Problem Solving process was not meant to progress in that way. It was clear that a model that showed the dynamics more visually would be helpful.

Figure 2.1. Creative Problem Solving Flowsheet


Miller, Vehar and Firestien (2001) developed the Plain Language Model, also called the Component Model, using a Venn diagram to represent the stages of Creative Problem Solving and to emphasize that the process was not meant to be linear, that in fact it could begin anywhere and loop back to steps already covered (see Figure 2.2).
The current Creative Problem Solving: The Thinking Skills Model (Puccio, Murdock & Mance, 2007) adds cognitive and affective thinking skills for each process step while maintaining the divergent and convergent phases of each. Three additional affective skills are identified to assist with all steps. This model further emphasizes the non-linear metacognitive process which allows the user to choose where to enter the steps based on the nature of the data generated in the central function, Assessing the Situation (seen in Figure 2.3). The user then determines the kind of cognitive thinking needed and enters the process at that point. The process map is seen in Figure 2.3, the cognitive and affective thinking skills are in Tables 2.1 and 2.2.

Figure 2.2. Creative Problem Solving plain language or component model

Figure 2.3. Creative Problem Solving: The thinking skills model

Table 2.1

*Cognitive and affective skills for the steps of the thinking skills model*

<table>
<thead>
<tr>
<th>Step</th>
<th>Purpose</th>
<th>Cognitive Skill</th>
<th>Affective Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing the</td>
<td>To describe and identify relevant data and to determine next process step</td>
<td>Diagnostic</td>
<td>Curiosity</td>
</tr>
<tr>
<td>Situation</td>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Exploring the</td>
<td>To develop a vision of a desired outcome</td>
<td>Visionary</td>
<td>Dreaming</td>
</tr>
<tr>
<td>Vision</td>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Formulating the</td>
<td>To identify the gaps that must be closed to achieve the desired outcome</td>
<td>Strategic</td>
<td>Sensing gaps</td>
</tr>
<tr>
<td>Challenges</td>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Exploring Ideas</td>
<td>To generate novel ideas that address significant gaps or challenges</td>
<td>Ideational</td>
<td>Playfulness</td>
</tr>
<tr>
<td>Formulating</td>
<td>To move from ideas to solutions</td>
<td>Evaluative</td>
<td>Avoiding Premature</td>
</tr>
<tr>
<td>Challenges</td>
<td></td>
<td>Thinking</td>
<td>Closure</td>
</tr>
<tr>
<td>Exploring</td>
<td>To increase the likelihood of success by testing solutions</td>
<td>Contextual</td>
<td>Sensitivity to Environment</td>
</tr>
<tr>
<td>Acceptance</td>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Formulating a</td>
<td>To develop an implementation plan</td>
<td>Tactical</td>
<td>Tolerance for risks</td>
</tr>
<tr>
<td>Plan</td>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
</tbody>
</table>

With the changes in models, the process itself has remained basically the same for over fifty years: a series of steps with divergent and convergent thinking balanced in each step leading through a cognitive, rational, semantic process for deliberately and creatively solving problems, addressing challenges and meeting opportunities. In the next section, the effectiveness of training in this process is examined.

Table 2.2

Affective skills underlying all steps of the thinking skills model

<table>
<thead>
<tr>
<th>Openness to Novelty</th>
<th>Ability to entertain ideas that at first seem outlandish and risky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance for</td>
<td>Ability to deal with uncertainty and to avoid leaping to</td>
</tr>
<tr>
<td>Ambiguity</td>
<td>conclusions</td>
</tr>
<tr>
<td>Tolerance for</td>
<td>Ability to stay open and persevere without being overwhelmed</td>
</tr>
<tr>
<td>Complexity</td>
<td>by large amounts of information, interrelated and complex</td>
</tr>
<tr>
<td></td>
<td>issues and competing perspectives.</td>
</tr>
</tbody>
</table>


Efficacy of Creative Problem Solving training. In a quantitative meta-analysis of program evaluation efforts, Scott, Leritz & Mumford (2004) compared 70 programs of creativity training chosen using specific criteria from 156 studies found. They confirmed former studies indicating that creativity training is effective. They found a large effect size (Cohen’s d=.64) in the overall analysis and sizeable effects in the four criteria used for evaluation: divergent thinking (.75), problem solving (.84), a moderate effect for performance (.35) and a small effect for attitudes and behavior (.24). They provided
evidence that the effects remained over time and was transferable to other subjects for younger and older students, for working adults, and for high and medium achievers. They identified two programs: the Purdue Creative Training program which described creative thinking principles and illustrated real-life examples for grammar school students; and the cognitive, rational semantic approach of Creative Problem Solving at Buffalo State College for Master’s students and undergraduates as more effective in providing a larger effect on creative output and a higher proportion of effective evaluation than others which focused mostly on divergent production.

A qualitative follow-up 33 years after the Creative Studies Project at Buffalo State showed the skills from the Creative Problem Solving courses were retained (Fox, 2005; Fox & LaMattina, 2006). This was done with only five experimental students from the 35 who actually completed the full two years of classes and one control student due to the difficulty in finding them after 33 years and the lack of funding for the study. The plan was to determine the lasting effects of the training on participants who were now 50 to 53 years old in personal interviews. All experimental subjects remembered the courses, the instructors, creativity tools and the Creative Problem Solving process. They all reported they were intrinsically motivated, confident, happy, and hopeful for the future. They reported that they saw a connection between the creativity training and their approach to life. Four of five had continued their professional and/or personal development and had a wide range of activities outside their careers. They belonged to organizations that had an influence on their communities. All seemed to be good problem solvers able to describe their processes and techniques. They felt definite control over their lives and were able to create tangible and intangible products in their lives. They all had awareness of their
environments and their ability to manipulate it for success. Most controls who were contacted were not willing to be interviewed. The one control subject who was willing, a highly creative person, actually gave responses similar to the experimental subject responses. This could be because of that subject’s personal style, because of the many conversations that were reported between experimental subjects and control subjects during the original study, or because after the two-year experiment control subjects were allowed to take creativity courses. However, from a qualitative view, the self-reported results of the five experimental subjects indicated a correlation between creativity training and success in life, and a continued use of the skills learned. The results are credible from the perspective of the participants, transferable as they reported using the skills in various areas of their lives, dependable as they remained over a 33-year period, and confirmable to the extent that two researchers found the same results from different people. These are the measures of reliability in qualitative research.

Puccio, Firestien, Coyle and Masucci (2006) synthesized research literature from an organizational context to determine the impact of Creative Problem Solving training in work situations. Among the results from the eighteen studies examined were significant improvement in divergent (fluency, flexibility and originality) and convergent (better analysis, more supportive of other ideas, examination of more data) thinking skills, improved attitudes about divergent thinking, reduced tendency toward premature decision making, better idea evaluation skills, improved communication behaviors, greater willingness to take risks, and continued use of the skills six months to several years after the training.
It is evident from these studies that training is effective in improving creative abilities and skills. The studies also speak to the dependability of retaining the skills over a period of time. In specific multiple studies by Mumford, et al. and Sternberg, the next sections describe more specifically what skills can be developed to help solve problems.

Study of cognitive processing skills in creative problem solving. Creative problems usually exhibit novelty and complexity, are often poorly defined and ambiguous, or lack structure (Mumford & Gustafson, 1988). Based on prior research that suggested that certain cognitive processing skills were necessary for solving these problems, Mumford et al. conducted a series of studies to determine what these skills were. In the first study Mumford, Baughman, Threlfall, Supinski & Costanza (1996a) constructed process-based measures of creative problem solving skills and tested them on student groups to determine what kind of skills were useful in producing a creative solution.

For the data collection phase, psychology students were asked to do a two-hour study on problem solving skills. In the first hour, students were given ability tests including divergent-thinking skills, verbal reasoning, general intelligence measures, and typing skills since much of the output was on computer. They were asked to complete a demographic form including gender, self-reported grade point average and SAT scores. These data were to provide control measures and reduce demand characteristics. In the second hour, students completed the measures developed by the researchers for the various skills after receiving a brief computer-based tutorial for each. Measurement of results was based on quality and originality as assessed by trained panels of doctoral student judges and examining rater agreement coefficients.
The data collection was analyzed in a variety of ways and published in several articles. In five of the resultant articles the creative problem solving skills examined were:

1. Problem construction (Mumford, Baughman, Threlfall, Supinski & Costanza, 1996a),
2. Information encoding (Mumford, Baughman, Supinski & Maher, 1996b),
3. Category selection (Mumford, Threlfall, Supinski & Baughman, 1996c),
4. Category combination (Mumford, Baughman, Maher, Costanza & Supinski, 1997a),
5. Overall prediction (Mumford, Supinski, Baughman, Costanza, & Threlfall, 1997b).

In the measure of problem construction (Mumford et al., 1996a), researchers hypothesized that the context or structure imposed on ill-defined problems shapes the nature and success of problem solving efforts. There were four problems in this section consisting of a short two- or three-line statement of a complex situation and a choice of sixteen representational elements of the problem in type categories of four each for (1) key diagnostic information, (2) goals, (3) procedures and (4) restrictions in random order. The elements included choices identified previously as high or low quality and high or low originality. One sample problem is seen in Figure 2.4. Students selected the four elements they felt would be most useful in solving the problem. The study found that more time spent on goals used in structuring an ill-defined problem contributed highly to the ability to produce creative solutions, that is, those of high quality and originality. The students were more likely to use problem definitions based on high quality information,
high quality procedures and high quality restrictions rather than thirteen other constructs representing information, goals, procedures, and restrictions with varying amounts of quality and originality as constructed by panels of judges.

SITUATION 1: You are attending an important diplomatic event sponsored by the State Department. You notice that an acquaintance who has had a little too much to drink is beginning to annoy an important country’s ambassador and some of the other guests.

INFORMATION: "How can I . . . "
*HQHO find out if the acquaintance is behaving this way on purpose?
HQLO find out how soon the acquaintance is planning on leaving?
LQHO explain his behavior to the ambassador in terms of American tradition?
LQLO find out when the party is over?

ALTERNATE GOALS: "How can I . . . "
HQHO get him to entertain us with an ethnic dance he learned overseas?
HQLO make sure my acquaintance won't do this again?
LQHO develop this situation into a play or short story?
LQLO act like I don't know the person?

ALTERNATE PROCEDURES: "How can I . . . :"
HQHO find someone to engage the ambassador in another discussion?
HQLO get him away from the ambassador and apologize for his behavior?
LQHO get the bartender to give my friend non-alcoholic drinks?
LQLO get the acquaintance to leave the party?

RESTRICTIONS: "How can I . . . "
HQHO join the group and change the subject so that no one becomes annoyed?
HQLO not attract the ambassador's attention while having the person removed?
LQHO act without the acquaintance spilling his drink on the ambassador?
LQLO act so as to keep people from getting upset?

*(In the measure the statements were given in random order without category labels or codes. The codes refer to high or low quality and high or low originality.)*

*Figure 2.4. Problem construction example*

In information encoding (Mumford, et al., 1996b) six types of information (irrelevant, inconsistent, principles, restrictions, goals, and factual information) were presented and the amount of time people spent on each type was measured. Students looked at four problems: two managerial problems and two public policy problems. For each, they read six cards (computer screens), each containing a one paragraph statement of information about the problem. Researchers proposed that the type of information selected was related to performance on creative problems. The information was manipulated from case studies so that some was relevant, some was not. After reading, the students wrote a one paragraph solution. They could go back to each card as much as they wanted. Students were measured on how much time (computer measured) was spent on each card. Researchers found that more time spent on factual information influenced the quality and originality of solutions. Time spent focusing on relevant facts was positively related to quality and originality of solutions.

Category selection (Mumford et al., 1996c) refers to the ability to choose concepts or categories for organizing information, knowledge, facts and principles so that new information can be placed in a context to make sense of it. Researchers offered students three- or four-paragraph statements of five different organizational problem statements and a set of eight concepts: two each of general principles, long-term goals, evaluation of others, and discrete action plans for each to choose from to help them understand the situation better. Students selected four of the eight as helpful. Researchers wanted to see if selection of any of the concepts was related to performance on a creative problem solving task. They measured how many times students chose a particular type of concept to understand the situation. Using the long-term goals concept, when attempting to
understand complex problems, was positively related to solution quality and originality as opposed to using general principles which was negatively related to quality and originality. However, even the researchers agreed, more work would be needed for a definitive answer as there were many potential issues such as the fact that this study only examined one process, there were a limited number of concepts examined, and that other types of concepts such as self-evaluation might contribute to creative performance in different domains.

For category combination (Mumford, et al., 1997a), researchers wanted to know how people combine and reorganize knowledge, and if the success of combining and reorganizing would affect the outcome. Students were given a product description and asked to produce a short description of a marketing survey, a television advertisement and a magazine advertisement which were then rated. Findings confirmed that the ability to combine and reorganize categories into new concepts is related to the ability to produce original, high quality products. Multiple correlations of the quality and originality of people’s solutions with the quality of features in new categories yielded significant regression weights on both tasks included in the measure suggesting that the ability to combine and reorganize data contributes significantly to creative thought.

In the final paper on overall prediction (Mumford et al., 1997b) the researchers looked at the multiple correlations and regression analyses between the results of the previous four measures (problem construction, information encoding, category selection and category combination) to determine if a total process contributed to successful solution of creative problems impacting solution quality and originality. Using scores from the four previous measures, control data (verbal reasoning measures, keyboard
skills, GPA, total self-reported SAT scores and divergent thinking measures) the researchers performed multiple correlation and regression analyses. They found that the sum of the measures was an effective predictor of performance in creative problem solving tasks, and when added to the control data there was a significant gain in prediction of high quality and originality. The multiple correlations on one task were .62 and .61 ($p < .05$) and on the other task were .42 and .45 ($p < .05$) for quality and originality indicating that the four measures were predictors of creative performance.

The overall results of this study indicated that a process for approaching a creative problem was a helpful construct for a person’s ability to arrive at a quality original solution. The methods used were consistent with the Buffalo State program, though comparing them with the Creative Problem Solving process they were more immediately evaluative, highly structured, and time pressured. Some studies, for example, indicate that immediate evaluation inhibits creative thought (Amabile, 1983). By choosing from options students may have been forced into specific kinds of responses instead of the freewheeling style of idea generation used in Creative Studies classes. Given the explanations of the tasks, it is a surprise that students were able to complete all four in one hour. Time constraints and intensity may have been the reasons that while 137 students began the study, differing numbers, as low as 112, completed different measures.

*Creativity and intelligence.* Sternberg and Lubart (1996) states that creativity is at least as important as intelligence because “It is through creativity that we can cope with significant challenges in our environments in novel and appropriate ways” (p. 678). They believed the study of creativity was overlooked because of some approaches to it causing misunderstanding or avoidance. One approach is the rather mystical view that creativity
just happens; it is not something we do deliberately. Some pragmatic approaches try to develop creativity ostensibly for teaching it, but not empirically testing their developments, thus associating creativity with commercialization. Some have beliefs that there is one right answer, and that ambiguity must be avoided. There are non-mainstream psychological views that creativity is an expression of unconscious wishes, unmodulated thought, regression, etc. Some focus the study predominantly on eminent creators or geniuses rather than regular people limiting what creativity might be. Some refer to the lack of reliable measures of creativity, and difficulty in defining it. Others look at creativity as a subunit of another field such as cognitive psychology even to describing it as derivative of other phenomena and therefore not worthy of individual attention.

Sternberg and Lubart (1996) said more modern theories have to do with the confluence of many components that must be present for creativity to occur. Among these are knowledge, motivation, ability to deal with complexity, domain relevant knowledge and skills, ability to break patterns of thinking, environment, purpose, affect or mood, flexibility and being able to go against the crowd. Their own model, the investment theory of creativity which they characterize as “buy low and sell high” (Sternberg & Lubart, 1996, p. 683) involves the pursuit of ideas that are new or out of favor but have growth potential. These ideas are resisted at first, but the creative individual persists until the growth is realized and eventually moves on to the next unpopular idea (Sternberg & Lubart, 1991, 1995). If an idea is put forth too early or held too long so that it becomes obsolete or commonplace, creativity is thwarted.

Sternberg (2005) looked at “multiple creativities” (p. 371) including a review of processes with multiple parts, domains with potentially different outcomes such as
Gardner’s (1993) multiple intelligences and styles such as Kirton’s (1994) adaptor-innovator profiles. He concluded that the multiple intelligences are not mutually exclusive and might, at some point, be integrated into future models. In a 25-year retrospective article, Sternberg (2006b) discussed his own development in the study of creativity. He began with the study of intelligence, moved to studying creative intelligence, developed the Sternberg Triarchic Abilities Test (measuring analytical, practical and creative skills), studied how to improve creativity, developed theories of creativity, explored facets of creativity, examined creative leadership and collected stories of creative leadership. A summary of the facets of creativity he included follows:

1. Intellectual abilities – ability to think unconventionally and see problems in new ways, analytical ability to evaluate your own ideas, and practical abilities to know how to place your ideas in the context of your situation and convince others to accept them;

2. Knowledge – domain knowledge as long as it doesn’t limit the other skills;

3. Thinking styles – a preference and a decision for thinking creatively, thinking globally and locally, and recognition of priorities;

4. Personality – willingness to overcome obstacles and take risks, tolerance for ambiguity;

5. Motivation – intrinsic to the task at hand;

6. Environment – one in which creative ideas are supported and rewarded;

7. Confluence – a coming together of enough of these elements to encourage creativity.
Sternberg (2006a) discussed the taxonomy of creative contributions. He identified that the domain of the creative work is insufficient to examine the nature of the contribution and that a creative contribution is an attempt to propel the field to its future. He saw that as representing “a decision to exercise leadership” (p. 96). This concept opens the discussion on leadership.

*Creativity education.* Creativity education exists in several modes and so the term is often misinterpreted. For those involved in the arts, for example, creativity training would mean the development of their skills in those arts. For the purposes of this work, creativity education will mean the academic pursuit of knowledge about the field and development of skills within the deliberate search for new and relevant solutions to complex, ill-defined situations using a concrete set of principles and procedures based in theoretical and empirical research. Creativity training, usually involving people with the need to use the skills though not needing the academic approach, will refer to the development of those requisite skills without the focus on the knowledge, field development and research expected in an academic setting.

For many people the term creativity only includes the divergent thinking process of coming up with ideas. In fact, as described earlier, the Creative Problem Solving process involves a balance of divergent and convergent thinking along with managing large amounts of data, a focus on the goal, taking into account the context where a solution might be implemented, and a full plan of accountable action. The Partnership for 21st Century Skills (2008), a group including educators, businesses, some state governments or boards of education, and three United States senators, called for the nation to do a better job of teaching and measuring skills that they said were
indispensable in our global economy. They agreed that the core curriculum skills were important, but felt these other skills were lacking and necessary. The skills they identified were:

1. Thinking critically and making judgments about information;
2. Solving complex, multidisciplinary, open-ended problems;
3. Creativity and entrepreneurial thinking;
4. Communicating and collaborating with teams of people across cultural, geographic and language boundaries;
5. Making innovative use of knowledge, information, and opportunities to create new services, processes and products; and

Clearly most of these skills are included or are directly connected to the steps of the Creative Problem Solving process (See Table 2.7).

Knight (2002) suggested that creativity constructs new tools, new outcomes, and new embodiments of knowledge, as well as new relationships, rules, communities of practice, connections and social practices. He stated that a creative curriculum requires a program approach, progressive student development, openness to choice between and within modules, novel tasks, differentiated assessment – formative and summative, emphasis on learning for understanding, students ready for the spirit of creativity, a portfolio approach supporting metacognition, openness to innovation and rigorous program evaluation. Torrance (1972) studied 142 programs aimed at teaching children to think creatively. He concluded that it was possible to improve creativity skills and cited
training in the Osborn-Parnes model as having the highest percentages of success. He attributed this success to an involvement of both cognitive and emotional functions, provision of structure and motivation, and the opportunities for interaction with other students and teachers. He stated that motivating and facilitating conditions were a factor, but the greatest success was seen when deliberate teaching was involved.

The work of Parnes and Noller (1972 a, b, c; 1973) was seminal in creativity education at the college level. The program they developed at Buffalo State for both undergraduates and graduates was the first ever recorded. They developed the first set of definitions, principles and procedures and, as seen earlier in this chapter, concluded that creativity was teachable and learnable. As their work, begun in 1969, has continued at Buffalo State for forty years, has connected with researchers and institutions around the world, and has earned and maintained a solid reputation for valid ongoing research and development, this is a good place from which to view the field and conduct this study.

Originally, the work in creativity education focused on the principles and procedures involved in using the Creative Problem Solving process, such as the balancing of divergent and convergent thinking in each step. As the field progressed, more explicit delineation of the skills needed to think in a non-linear, inclusive, creative way assisted in making the process meaningful to wider audiences. This expanded the understanding of creativity as a way of thinking rather than some of the old mythical views such as that creativity was only for the arts, that it was not understandable, or that it was something that just happened sometimes. The process of helping groups or individuals, to learn, to find a solution, or to reach a consensus, without imposing or dictating an outcome is called facilitation and that process grew as the understanding of the field grew. Puccio et
al. (2007) took this study a level deeper by examining personal thought and information processing, at each step of the Thinking Skills Model. They researched, identified and defined the specific cognitive skills needed at each step as seen in Table 2.3.

Table 2.3

*Definitions for Creative Problem Solving: The thinking skills model*

<table>
<thead>
<tr>
<th>CPS: TSM Steps</th>
<th>Cognitive Skill</th>
<th>Definition of the Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing the Situation</td>
<td>Diagnostic</td>
<td>Examining a situation closely, describing the nature of a problem and making decisions about process steps</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Exploring the Vision</td>
<td>Visionary</td>
<td>Articulating a vivid image of what you desire to create</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Formulating the Challenges</td>
<td>Strategic</td>
<td>Identifying critical issues to address and pathways</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td>needed to movetoward the desired future</td>
</tr>
<tr>
<td>Exploring Ideas</td>
<td>Ideational</td>
<td>Producing original mental images and thoughts that respond to important challenges</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Formulating Solutions</td>
<td>Evaluative</td>
<td>Assessing the reasonableness and quality of ideas in order to develop workable solutions</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Exploring Acceptance</td>
<td>Contextual</td>
<td>Understanding the interrelated conditions and circumstances that will support or hinder success</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
<tr>
<td>Formulating a Plan</td>
<td>Tactical</td>
<td>Devising a plan in specific, measurable steps to attain a desired end and monitor its effectiveness</td>
</tr>
<tr>
<td></td>
<td>Thinking</td>
<td></td>
</tr>
</tbody>
</table>

Sternberg, et al. (2009) offered suggestions for taking his WICS model (Wisdom, Intelligence, and Creativity Synthesized) into the classroom and while it is meant for teaching children, there are implications even for the teachers of the children in assessing themselves and for others thinking about the contexts of their own situations. The WICS Model of Thinking is presented in which memory, analytical, creative and practical skills combine with positive and ethical values to influence decision making. It includes the interpersonal, intrapersonal, and extrapersonal (context) skills to balance short and long term interests in response to the environmental context. These same skills are suggested in the leadership research previously discussed.

Clapham (2003) examined past studies of the effectiveness of creativity training and conducted some studies as well. The conclusion was that creativity training was effective in producing more ideas for innovation. This remained true across studies of creativity training of children, of college students and of professionals. The Creative Problem Solving process-based courses were part of all of the studies. While Clapham (2003) also stated that creativity training had positive effects on divergent thinking and project performance, additional questions were raised about how it actually worked, what conditions or environment contributed to the positive effects and what effect was seen as a result of individual personality differences. Clapham (2003) acknowledges that most of the studies were conducted only on performance on divergent thinking tests. This may have contributed to the concerns raised by several of those studies that creativity increased ideas, but didn’t help make decisions and that the skills didn’t transfer to subjects outside the domain being studied. If the full range of skills were tested outside of the circumstances that were studied, the results might have shown the balance of
divergent thinking with convergent thinking, the analysis of context and the planning for implementation that are inherent in the Creative Problem Solving process.

More courses and programs in creativity in colleges and universities were found in an online search than had been expected. The purpose was to test the assumption that the program at Buffalo State was unique. In a general internet search, fifty-four programs were identified as having some similarities to the concepts identified as part of the Buffalo State program. To narrow the field only degree-bearing programs in creativity, innovation, entrepreneurship and design were included, and only if creativity was a strong factor in the program (see Appendix A). Programs eliminated included some on management of creative people, some in which the title of creativity was the only mention of the word in the program, and some for which sufficient information was not available online to determine the connection with what is taught at Buffalo State. This brought the list down to thirty programs. Each was examined for content and focus. A further criterion, more than one course in the study of the field of creativity, brought the list down to seven. Drexel University, Texas A&M, Universidad Autónoma de Manizales in Colombia, Universidad Fernando Pessoa in Spain, University of Malta, University of Massachusetts – Boston, and Saybrook University programs were most similar to the Buffalo State program. The programs at Texas A&M are very similar to the Buffalo State creativity content. They do not add the leadership component. They offer a doctorate in Intelligence, Creativity and Giftedness. The University of Massachusetts in Boston offers a Master of Arts degree in Critical and Creative thinking. Three programs, Universidad Autónoma de Manizales, Universidad Fernando Pessoa, and University of Malta offer masters degrees in Creativity and Innovation. Universidad
Fernando Pessoa also offers a doctorate in Creativity. The University of Malta, connected with Edward deBono, an internationally known figure in creativity, also has an International Master of Science degree in Strategic Innovation and Future Creation held in partnership with universities in Germany, UK and Finland. Saybrook University offers only a certificate program in Creativity Studies which can be applied to a degree program. Even on close examination, the program at Buffalo State is unique.

The Study of Leadership

Leadership is a very popular and documented area for research today. Theories of leadership, definitions, styles, behaviors, knowledge, emotional impacts, situational contexts and other aspects abound. Drilling down to look at baseline theories can go in almost any direction.

Leadership is a broad spectrum of qualities, traits, skills, characteristics, actions, and abilities (Kouzes & Posner, 2007; Northouse, 2007; Giuliani & Kurson, 2002; Goleman, Boyatzis & McKee, 2002; Puccio, Murdock & Mance, 2007; Buckingham & Coffman, 1999).

There is an entire realm of possibilities for what leaders are, could be, or should be. The most definitive, inclusive, and recommended work is from Kouzes and Posner (2002, 2008). They identified Five Practices and Ten Commitments for Exemplary Leadership (Table 2.3) as well as twenty characteristics of admired leaders (Figure 2.5).

Leadership skills. Kouzes and Posner (2006) describe the importance of relationship building skills for leaders. This begins with the leader developing a good self-awareness and sharing that with others. The purpose is to build trust. People do not follow someone they don’t know, even if the person has a position of authority. They
need to know the leader’s values, beliefs, aspirations, hopes, dreams and some personal things like hobbies and skills not seen in the workplace. People want to like the leader they will follow and that can be built by the leader who makes people feel good about themselves.

Leaders need to understand the people with whom they disagree to be able to resolve conflicts. A leader cannot change another person, only himself or herself. The focus in disagreements should be on the purpose, not on either individual. The leader should respect and encourage differences of opinion so that the best and strongest solutions can be implemented. Valuing other people’s opinions different than those of the leader may be uncomfortable. It requires openness and honesty, being true to your word, and allowing others to take charge even though there may be mistakes. Trust also requires continued work on all these areas when things go wrong.

Another skill needed by leaders is development of other leaders in the workgroup. This requires allowing people to take lead roles, and avoiding micromanaging their projects. It involves utilization of each person’s enthusiasm and interest and letting them choose what they are motivated to accomplish. In this way, people will develop personal responsibility and accountability, feel good about their work and be challenged to do more.

Kouzes and Posner (2006) identified honesty as the first characteristic people desired in their leaders. The second was a future orientation, called forward-looking. They stated that this characteristic was also the one that leaders were least good at demonstrating. It was found in their research that training in creating and communicating visions of the future was also very bad. They found that leaders were so focused on the
present – maintaining market position, profits, and production – there was no time to think about the future. Changes occur at such a rapid rate that keeping up is the main goal. They posited that this puts the leader on automatic pilot, not even mindful of what is going on in the present, just reacting to each issue in the same old ways rather than making creative changes to improve the situation. The leader needs to develop a mindset that is always looking at what might be next. This will be assisted by developing other leaders, listening to ideas and possibilities, and having a shared vision with the workgroup on how they want things to be in the future.

Table 2.4

*Five practices and ten commitments of leadership*

<table>
<thead>
<tr>
<th>Model the Way</th>
<th>1. Clarify values by finding your voice and affirming shared ideals.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Set the example by aligning actions with shared values.</td>
</tr>
<tr>
<td>Inspire a Shared Vision</td>
<td>3. Envision the future by imagining exciting and ennobling possibilities.</td>
</tr>
<tr>
<td></td>
<td>4. Enlist others in a common vision by appealing to shared aspirations.</td>
</tr>
<tr>
<td>Challenge the Process</td>
<td>5. Search for opportunities by seizing the initiative and by looking outward for innovative ways to improve.</td>
</tr>
<tr>
<td></td>
<td>6. Experiment and take risks by constantly generating small wins and learning from experience.</td>
</tr>
<tr>
<td>Enable Others to Act</td>
<td>7. Foster collaboration by building trust and facilitating relationships.</td>
</tr>
<tr>
<td></td>
<td>8. Strengthen others by increasing self-determination and developing competence.</td>
</tr>
<tr>
<td>Encourage the Heart</td>
<td>9. Recognize contributions by showing appreciation for individual excellence.</td>
</tr>
<tr>
<td></td>
<td>10. Celebrate the values and victories by creating a spirit of community.</td>
</tr>
</tbody>
</table>

Leaders need to realize that reaching the full promise of the future requires allowing others to take the lead, that leadership is a role, not a position. Different people may be appropriate for leadership roles in different situations even if they do not have a formal title or position of perceived power. This means the leader may be a follower at times.

<table>
<thead>
<tr>
<th>Honest</th>
<th>Forward-Looking</th>
<th>Inspiring</th>
<th>Competent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent</td>
<td>Fair-Minded</td>
<td>Straightforward</td>
<td>Broad-Minded</td>
</tr>
<tr>
<td>Supportive</td>
<td>Dependable</td>
<td>Cooperative</td>
<td>Courageous</td>
</tr>
<tr>
<td>Determined</td>
<td>Caring</td>
<td>Imaginative</td>
<td>Mature</td>
</tr>
<tr>
<td>Ambitious</td>
<td>Loyal</td>
<td>Self-Controlled</td>
<td>Independent</td>
</tr>
</tbody>
</table>

Figure 2.5 Characteristics of admired leaders


Leaders should want to make a difference that leaves a legacy. This takes courage in steadfastly following values and beliefs, taking a stand when it may not be popular, facing difficult times and issues, working through adversities and fears, admitting when wrong, accepting that sometimes failure happens and continuing to encourage and inspire others through it all. It involves continuous learning to keep up with the times. Perfection is not the leadership ideal according to the authors, being more of who you are is the ideal.

Transformational leadership. Bass and Riggio (2006) in a review of theory and research on transformational leadership stated that several factors influenced people’s loyalty,
commitment and satisfaction on the job. Not the least of these was leadership that was inspiring, stimulating and considerate of the needs of others – transformational leaders. Transformational leadership influences commitment in that people want to emulate good leaders, they are role models. Building emotional commitment to a mission or goal is part of the leader’s ability to inspire. Intellectual stimulation and individualized consideration help people feel increased competence and pride in their work. Participation in the group efforts is an identification of membership and the leader’s expression of confidence in the work builds self-esteem.

Truly transformational leaders are authentic, having the trust of and referent power from the workers. This does not involve manipulation, authoritarianism, narcissism, threats, punishments, or other self-aggrandizing methods of coercing the work to be done. These leaders look to development of the workers, relationship building, and collective efficacy.

Transformational leaders have a positive effect on the performance of the group. They motivate people to be creative rather than being the sole source of the group’s innovations. They do this by stimulating people to think outside the box, providing a climate that supports creative efforts, and appealing to people’s intrinsic rather than extrinsic motivation. Bass and Riggio associated transformational leadership with the production of positive change in the organization. They indicated that follower development and mentoring were often overlooked in evaluating leader effectiveness.

They posited that the transformational leader helps alleviate the stress caused by additional work, crisis and constant change. This is because transformational leaders can make directive decisions in a difficult time. Planning ahead for such contingencies,
which requires imagining possible future scenarios, is another helpful skill. But even when the unexpected occurs, this leader can organize the efforts of the people in evaluating the situation, appraising the issues, and planning contingencies. Quick decisions are avoided by listening to diverse opinions. The leader is able to rise above what might be thought to be immediate needs and appropriateness of response and encourage workers to deal calmly with frustrations and the sense of urgency that might lead to quick, but inappropriate or incomplete response. The leader transforms crisis into challenge and so mobilizes the people to effective action.

**Value-added leadership.** Belasco and Stayer (1993) put forth that leaders add value by redefining situations to help people feel powerful rather than helpless. They did this by accepting that people felt stymied and asking questions that allowed them to speculate on what could be done short of the ideal solution. This gained people the feeling of better control of the situation. They used this concept in other examples of people being stuck on the way things were and not listening to possibilities.

They challenged the paradigm of leadership meaning plan, organize, command, coordinate, and control stating that “the leader’s job is to get people to be responsible for their own performance” (p. 43). They said a leader must implement the principles of transferring the ownership of work to the people who do it, creating an environment for that ownership so people want to be responsible, coaching the development of capability and competence in each person, and creating conditions where they and others could learn faster.

Leading the journey of change involves the leader determining focus and direction, removing the obstacles to great performance, developing ownership for all in
the obstacles so they can remove them, and stimulating self-directed action in the right direction. Having a focus provides motivation and direction. People need to know the goal. They need to know the meaning of great performance and all the aspects that includes. Developing ownership means having people look at the obstacles as though they were personal, as though they had to spend their own money to overcome the obstacles. It means adding value to products and services to encourage customers to buy. It means developing partnerships to improve the output and relieve the workload. Removing obstacles includes determining which systems and mindsets that need to be changed are within the influence and responsibility of the group. It includes measuring performance to determine blockages and areas of poor performance which need to be changed. Stimulating self-directed actions means encouraging creativity to do things in a new, more productive, way. It means the leader will act as a role model, will ensure that people have the training they need to take on a leader role, and will encourage good tries that are not always successful. The leader must also model the continuous learning needed to keep the organization competitive and future-oriented.

*Other leadership perspectives.* Patching (2007) considered leadership as a mix of character, the elements of the kind of person the leader is, and strategy, the way the leader achieves goals. He proffered that character is developed by core values acquired in the various environments experienced in life. Character is influenced by instincts such as survival, caring for the community, responsibility, risk taking, and competition. At times these instincts are opposites of each other and values are called into play to mediate. The way the leader feels is right in the organization of the conflicting instincts is the character. The way the leader chooses to operate within that character is the
strategy. This is a consideration for a transformational leader in terms of self-assessment and in whether the character and strategies support the efforts to be transformational.

Mulhern (2007) emphasized a number of important leadership skills beginning with the creation of a vision. He believed that the vision is the tool that brings out the greatness of the team. He also emphasized communication, particularly story telling as a way of creating a positive sense of identity in the group. He indicated that paying attention to the energy of the group was the way to maintain motivation and that positive reinforcement by the leader helps to do this. Integrity is a very desirable trait of a leader and includes the leader being honest about his or her own behavior and issues and integrating them in such a way that they do not adversely affect the work group.

Rath and Conchie (2008) reported on leadership research results of over 20,000 in-depth interviews with senior leaders, studies of over a million work teams, and 50 years of Gallup Polls about most admired leaders. The key themes they found were that the most effective leaders always invest in their strengths, surround themselves with the right people building on each person’s strengths, and understand their follower’s needs. They identified four domains of leadership strength: executing, influencing, relationship building, and strategic thinking. Within these they identified 34 strengths themes that leaders might pursue. Among these were belief in core values, communication, connectedness between all people and things, respecting context in the organization recognizing the past while moving to the future, deliberative in making decisions and anticipating obstacles, developer of the potential in others, focused in following through and staying on track, futuristic with vision, ideation - finding connections between disparate phenomena, someone who includes and accepts others, learner who is
continuously improving, displays positivity with infectious enthusiasm, and a strategic thinker spotting relevant patterns and issues and creating alternative ways to proceed. These are consistent with the research reported by others, as were most on the list. They indicated that leaders were only as strong as the connections they make with the people in their constituency, and yet, in leader evaluations, that element of impact is more or less ignored. Trust, compassion, stability and hope were considered the top reasons people would follow a leader.

Beach (2006) stated that authentic leaders know leadership is about change that moves the organization to a better future. Within that the leader, working with others in the organization, has some prime responsibilities. They must assess the internal and external environment and determine what change is needed. They need to understand the culture of the organization, the beliefs and values that guide actions, and change anything that is impeding progress. They must create a vision of the future taking into account any constraints from the environment or culture, articulate goals to move toward that future, and promote the vision to others. They need to design a plan to address the goals and communicate how it will assist in achieving them. They must maintain momentum and monitor progress as the work is done to achieve the goals so they can discover and correct any weaknesses in the plan. They finally need to institutionalize the changes and help others recognize that change is normal and expected. Beach acknowledged that nothing is as cut-and-dried as achieving these responsibilities might seem and stated “Nothing replaces creativity, ingenuity, intelligence, motivation, and a good sense of humor” (p.138).
Leadership education, training and development. Leadership education is widely available by both seated and online programs in most colleges and universities in some form, often within or in conjunction with the domain of study. Leadership training has proliferated in business settings through the use of in-house training, consultant involvement, or sending people to community-based or national leadership programs. Leadership development involves building leadership skills within the workplace context, gradually increasing skills and efficacy through practice.

Theories of leadership have discussed skills, abilities, traits, behaviors and other constructs to describe what a leader might be as discussed earlier. Since the middle of the 20th Century, most researchers have reported that leaders can be developed. How they should be developed depended on the current theories and popular leadership styles.

Evolution of leadership. Komives, Owen, Longerbeam, Mainella and Osteen (2005) wanted to find out how leadership evolves in the individual. They conducted a grounded theory study involving a diverse group of thirteen students selected from professional nominations of those considered high in relational leadership. Each student participated in three interviews of one to two hours each with the same researcher. In the first interview, each student told a reflective life history of how he or she developed from elementary school to current times. In the second interview, each student identified experiences in working with others and any leadership components. The third interview explored each student’s changed views of leadership and what had influenced changes.

Using this data and constant comparative analysis the researchers explored emergent issues. The research demonstrated that leadership identity developed through six stages: awareness, exploration/engagement, leader identified, leader differentiated,
generativity and integration/synthesis. Awareness referred to the first recognition of leadership existing in others. Exploration/engagement was the time of getting involved in groups and taking on responsibilities. Leader identified was the perception that the leader is the central responsible figure in the group and everyone else is a follower. Leader differentiated occurred when it was recognized that leadership was a process and that anyone in a group could do leadership beginning the view that the positional leader was more of a facilitator, group builder and culture shaper. Generativity involved interdependent commitment to larger purposes connected to important beliefs and values. Finally, integration/synthesis was the continual active engagement with leadership on a daily basis making it part of personal identity.

  Taken into account also were the environmental context and supports for the students’ development. Students developed through deepening their self-awareness, building self confidence and establishing interpersonal efficacy. They learned to apply new skills, expanded motivations, and began to look at groups and group roles in different ways. Feedback from group members was an important aspect of growth. The researchers observed that leadership identity development (LID) involved confidence in personal ability to work with others to accomplish goals.

  In a follow-up study, Komives, Owen, Longerbeam, Mainella and Osteen (2006) expanded their leadership identity development model (LID) to include more of the categories found in the earlier work (Komives, et al. 2005). They identified methods of facilitating development through each of the six stages of leadership identity development they had described, as well as ways to create an empowering environment for the development to take place.
Each of the skills was introduced in the stage preceding it to assist in the transitions. In the awareness stage, students needed the use of clear definitions of concepts of leadership, leadership styles and discussions of goal accomplishment. They needed to develop interests in which to become involved. In the exploration/engagement stage, group formations, affirmations of their productive skills and behaviors to build confidence, and feedback on areas for growth were important. In the leader identified stage, peer encouragement and mentoring, group process skills, shared responsibilities, and goal setting were some areas to foster. In the leader differentiated stage, teamwork, community building, and handling group conflict were taught along with further communication skills, and the use of ongoing or long-term group projects. In the generativity stage, students learned values clarification, developed their personal passions, began mentoring others, gained perspective on goals, systems and contexts and formed networks to create change. Finally, in integration/synthesis, students identified personal values about working with others, and identified talents and strengths they could use in diverse contexts. They reflected on a congruent concept of self to solidify their leadership identity.

*MBA programs.* MBA programs are especially popular and have been the standard preparation for management level hires in business for many years. This is where organizations seek the people they will call leaders. The trend continues as seen in research released by the Graduate Management Admission Council (2009). They stated that organizations will be hiring fewer MBA graduates this year due to the economy, but that those hired will be paid almost twice as much as those people hired with only an undergraduate education.
Most leadership training seen in MBA programs focuses on management skills rather than leadership skills as seen in Appendix B, an analysis of courses taught in the top ten MBA programs in the world. Connections to the term leadership are highlighted in yellow; connections to creativity are highlighted in green. On closer inspection of course descriptions, some of these are actually management courses with leadership titles, especially if leadership is viewed in transformational leadership terms. For the most part, the so-called softer skills such as interpersonal communication, facilitation of work groups, and conflict resolution are either non-existent or are hidden in the syllabi beyond the view of the website. Some specifically termed leadership programs were found in the search of creativity programs and discussed earlier. This is meant as an analysis, not a pejorative diatribe. The focus in businesses has been on the measurable outcome in the bottom line. Hiring people who are educated for the purposes of structure, stability and strong financial decisions made sense, and still does to most organizations. It does, however, present problems when leadership skills are needed. What skills would these managers need to develop to become strong leaders?

Garcia (2009), in a summary of his work, stated that in current times, corporations will be looking for innovative leadership at all levels by a new breed of ethical, reflective, and creative decision makers. In an empirical study of English and French business schools, however, he found that MBA curricula were not typically designed to provide a broad understanding of the kind of leadership needed. He called for a reconceptualization of the curricula so MBA participants could think and act in a way more in line with the ideals of democracy, social justice, and sustainable development.
Other concepts of education, training, or development of leaders. Weaver and Farrell (1997, 1999) focused on the new role of facilitation needed by managers in the workplace today. Rather than plan, direct and control; they need to set the vision, tone and direction. Their training program identified the manager becoming an instrument to assist the group in working together. This requires an understanding of group dynamics, learning to deal productively with conflict, active listening, boundary management and change management among other skills.

Reiter-Palmon and Illies (2004) focused on the dynamic balance between divergent thinking and convergent thinking needed at each step of a creative problem solving process. They identified, for divergent thinking, that instruction to generate many ideas, giving specific techniques to promote idea generation, providing guidance in how to use divergent information, and allowing sufficient time for elaboration and effort were necessary constructs for a leader. For convergent thinking, having the leader articulate criteria for evaluation, identify positive and negative consequences and obstacles, facilitate the evaluation process considering short- and long-term consequences, and provide feedback based on growth and learning rather than right or wrong answers are of paramount importance for effective convergence.

Basadur (2004) encouraged leaders to enable people to think innovatively together. He said that effective leaders must also separate process from content. They can do this through training in finding the complex problems in the organization, solving the problems and implementing the solutions thereby improving efficiency and adaptability which are the competitive edge characteristics in organizations. Then those leaders train others to use the cognitive skills allowing people to work in their skill areas.
while developing other skills. The leader would also need to back away from being the content expert while engaging the group in thinking innovatively.

Mumford, et al. (2000) proffered a model of how a leader’s career experiences including general and crystallized cognitive abilities, motivation, personality, problem solving skills, social judgment, social skills and knowledge are impacted by environmental influences. All of these, in turn, affect the leader’s problem solving skills and ultimately the leader’s performance. They stated:

Given the importance to leader performance of solving novel social problems, one would expect that certain types of experiences would prove particularly beneficial, including: (1) job assignments that provide exposure to novel, challenging problems; (2) mentoring; (3) appropriate training; and (4) hands-on experience in solving related problems. (p. 24)

Northouse (2007) said that the manner in which transformational leadership skills are taught should be consistent with the theory. It should provide a way of thinking that takes ideals, inspiration, innovation, and individual concerns into account. It should help leaders build vision and direction, exhibit consideration and promote intellectual stimulation for followers. It should help leaders understand the impact of their own behavior on their people and on the organization.

The concept of leader implies direction. In an established organization that direction would include maintaining the functional portions of the business, recognizing those that are non-functional and leading the organizational change needed to move in a new direction. Matthew (2009) found that leader creativity was a strong predictor of the capacity for leading change in novice to mid-career Army officers. She stated that the
skills of generating a vision and engaging, aligning, motivating and inspiring people to attain it were core functions of change leadership. She compared creativity, “the capacity to generate new, appropriate, high quality ideas and gain acceptance for them in a particular domain” with leading change, “forging a new direction in an uncertain and ambiguous environment gaining acceptance within and outside the organization” (p. 2).

The Relationship between Leadership and Creativity

Among the key responsibilities of a leader are anticipating the future and innovating, basically vision and growth. These require the ability to think creatively, to be comfortable with ambiguity, and to take reasonable risks. Problem solving with staff in a way that promotes innovation and moves the organization toward the vision is a skill sought in leaders. Creative Problem Solving, using one of the process models discussed earlier, provides a structure for leaders to facilitate productive change in the organization. In this section, the research on the connections between leadership and creativity will be explored.

Leadership behaviors. Maier (1952) investigated the behaviors of leaders that promoted problem solving. He was concerned with the bias of the leader toward his own solutions and that leaders often failed to share important data with the workers. He proposed that a solution integrating facts and needs from both sides, associated with creativity, and gaining high acceptance from all sides would be best. Maier (1953) found that training leaders in group decision making and instructing them to discuss problems of workers before raising their own was favorable to an integrative solution.

Using the tacit knowledge approach, Maier and Sashkin (1971) designed a measure to look at leadership behaviors during problem solving. From a sample of 424
undergraduates, 106 four-person groups were formed randomly with one as leader. Seventy-seven groups were in introductory psychology courses, and were considered untrained. The other 29 groups were industrial psychology students. They were designated as trained because they had been exposed to group decision making, involved in case discussions, had role-played in case conflict situations, and participated in the experiment about halfway into the semester (six chapters in their text). They were not given specific training on the leadership behaviors from the study. In the role play, a work related problem, the workers had one opinion of the solution; the leader had another opinion and some specific data. They worked through the problem and completed questionnaires on the type of solution reached, estimates of production, the leader’s discussion approach and the sharing of data. Solutions were classified as (1) old solutions, (2) new solutions, (3) integrative solutions, or (4) compromise solutions. The benefits of the training were seen by the increase in integrative solutions, those in which the leader posed the problem, shared the data and the group generated the solution, versus the leader posing a solution and persuading the group to adopt it. These integrative solutions were also judged innovative and superior in quality. Trained groups reported 55.2% integrative solutions versus 13% of untrained groups (p < .001). Trained leaders significantly shared all data (p < .001). Integrative solutions gained significantly greater acceptance than initially favored alternatives and versus new solutions posed by leaders (p < .001 for both comparisons).

Leadership of ill-defined problems. Mumford, Zaccaro, Harding, Jacobs and Fleishman (2000) posited that due to the complexity, conflict and change inherent in organizations, leaders must deal with ill-defined problems. Creative thought is necessary
in carrying this out successfully. Identifying creative problem solving as a method for dealing with those problems, they developed a framework for organizational leadership based on skills in formulating and implementing solutions to novel, ill-defined problems. They further argued that effective exercise of influence on the part of the leader involves using these problem solving skills in the context of the organization.

In a study done for the Army Research Institute for the Behavioral and Social Sciences, Zaccaro, Mumford, Connelly, Marks, and Gilbert (2000) suggested theoretical links among constructs: the skills involved in solving complex problems are interrelated and more strongly related to the leader’s knowledge, cognitive ability, divergent thinking skills, and Army grade than to verbal reasoning, motivation, values and personality. Their study provided validation.

*Creative attitude toward leadership.* Sternberg (1999) also identified skills necessary for a creative attitude toward leadership: problem redefinition, problem and idea analysis, selling the solution, recognizing how knowledge can both help and hinder creative thinking, willingness to take sensible risks, willingness to surmount obstacles, belief in one’s ability to accomplish the task at hand, willingness to tolerate ambiguity, willingness to find extrinsic rewards for the things one is intrinsically motivated to do, and continuing to grow intellectually rather than to stagnate.

Sternberg (2003), in a meta-analysis of leadership models he and other authors have developed since 1985, examined the relationship between leadership and management, types of intelligence and knowledge, experience, general cognitive ability, performance, levels of creativity, wisdom and synthesis. From this theoretical study, Sternberg developed a broader systems model for leadership, called WICS, with three
components; wisdom (W), intelligence (I) and creativity (C) all of which he argued must be synthesized (S) as one or two of them alone do not help make a leader effective. He proposed that these three are forms of developing expertise for leaders within our environments.

For intelligence, Sternberg identified that academic intelligence alone is insufficient. He specified three areas of intelligence; academic, practical, and creative. Academic intelligence refers to the memory, analytical ability, and ability to evaluate and judge information that is conventionally recognized as intelligence with emotional intelligence (Goleman, 1995), multiple intelligences (Gardner, 1993) and other types supplementing the definition. Practical or tacit knowledge intelligence, the ability to solve everyday problems using knowledge gained from experience, is a component of successful intelligence for leaders. These skills are used to change self to match the environment, change the environment to suit self, select environments, manage self, manage others and manage tasks. This tacit knowledge, while difficult to articulate, can be measured in responses subjects give for practical situations or problems.

In a confluence model of creativity (Sternberg & Lubart, 1995, 1996; Sternberg, 2006a), it was suggested that being creative is a decision, an attitude including redefining problems, recognizing how knowledge can help or block creative thinking, taking sensible risks, overcoming obstacles, believing in personal skills, tolerating ambiguity, finding extrinsic rewards for intrinsically motivated actions, and life-long learning. Sternberg (2003) presented a continuum for eight kinds of creative leadership starting from replication versions of already existing ideas on the low end and going to syntheses of ideas from different paradigms on the high end (see Figure 2.6).
1. Conceptual replication: applying previous techniques in new situations. This keeps the organization where it was.

2. Redefinition: finding a better reason to use a previous idea. This also keeps the organization in place.

3. Forward incrementation: attempting to lead the organization in the direction it was already going. Seen as creative because it extends existing thinking.

4. Advance forward incrementation: attempting to lead the organization in the direction it was going, but further beyond where others are ready to go. Generally, this is not successful because it meets resistance.

5. Redirection: trying to head the organization in a different direction. The leadership style needs to match the environmental circumstances for this to work.

6. Reconstruction and redirection: attempting to move the organization back to where it once was to move forward again in a different direction.

7. Reinitiation: trying to move the organization, to a point not reached yet and then move beyond that point. The goal is the same, but the mechanisms are different.

8. Synthesis: integrating two ideas that were previously unrelated or opposed.

Figure 2.6. Types of creative leadership


These types are qualitatively distinct, but have quantitative differences within them such as small steps forward might be compared with leaps forward. He concluded that “creativity is in large part a decision that anyone can make but that few people actually do make because they find the costs to be too high” (p. 97). The costs are
identified as personal risks of going against the crowd. He indicated that transactional leaders are more likely to pursue the low three (numbers 1-3) types while transformational leaders, as leaders who revolutionize ways of thinking, are more likely to pursue the top four (numbers 5-8.)

Wisdom is the final component in Sternberg’s model. In a series of studies, Sternberg (1985, 1990) looked for implicit theories of wisdom (qualitative analysis with large numbers of participants of different types) beginning with 200 professors each from art, business, philosophy, and physics rating behaviors for the conception of each of an ideally wise, intelligent or creative individual in their occupation. Then forty college students sorted the responses into groups of behaviors. The sorts were subjected to non-metric multidimensional scaling and six wisdom components were identified: reasoning ability, sagacity, learning from ideas and environment, judgment, expeditious use of information, and perspicacity. Then fifty adults were asked to rate descriptions of hypothetical individuals for wisdom, intelligence and creativity. Correlations computed between pairs of ratings for the hypothetical individuals’ levels of the three traits were .94 for wisdom and intelligence, .62 for wisdom and creativity, and .69 for intelligence and creativity suggesting that wisdom and intelligence are highly correlated in people’s implicit theories. Sternberg proposed a balanced theory of wisdom (1998, 2000) in which an individual is wise to the extent that successful intelligence, creativity, and experience are used as moderated by values.

Sternberg (2003) admitted that there is no model of leadership which captures all the facets of leader effectiveness. The WICS model, wisdom, intelligence and creativity synthesized, related to other models (Gardner, 1993; Goleman, 1995) and incorporated
Transactional and transformational leadership (Bass, 1998, Bass & Avolio, 1994). He believed the WICS model to be a good start and that eventually a model will emerge that integrates the strengths of all the other models. Sternberg’s work offers a simply termed complex confluence of creative leadership theory. While inclusive, it does not offer a clear description of how creativity and leadership interact.

Creative leadership. Puccio, Murdock and Mance (2007) offered the argument that deliberate creativity leads to change and leaders can influence the growth of individuals and organizations by facilitating productive change making creativity a core leadership skill. They stated “Creative thinking is a process that results in change, while leaders often act as the impetus for change” (p. 7). They cited Parnes and Noller (1972a, b, c; 1973) showing that individuals can be taught to be more creative and to facilitate others in being more creative so development of creative thinking and facilitation skills positively impacts the effectiveness of a leader. The authors’ Thinking Skills Model of the Creative Problem Solving process, previously discussed, introduced the cognitive and affective thinking skills associated with each process step. These thinking skills compare favorably with skills identified for leaders by other researchers. A comparison of skills and concepts in Figure 2.7 was organized by stages of the Creative Problem Solving process from the Component Model at Buffalo State on the vertical axis of a matrix and three phases of this literature review: creativity, leadership, and connections between the two, with the respective authors, on the horizontal axis.

Cognitive skills. Connelly, Gilbert, Zaccaro, Threlfall, Marks, and Mumford (2000) studied the effects of general cognitive abilities, motivation and personality on knowledge, problem-solving skills and social judgment skills and how those affected
leader performance and problem solving using regression analysis. They assessed the criterion related validity of measures of leader abilities in multiple levels of the U. S. Army management. In addition they provided some empirical measures of the Mumford, Zaccaro, Harding, Jacobs and Fleishman (2000) mediated model of leadership. Problem solving skills were statistically significant (p < .001) in predicting leadership performance. Creative thinking ($\beta = .34$), complex problem solving skills ($\beta = .21$), solution construction skills ($\beta = .17$) were variables showing significant regression weight in leadership success prediction. The skills based approach to leadership they tested was found to facilitate performance in a wide variety of situations involving complex and novel problems. Leader knowledge and skills contributed beyond the contribution of general cognitive ability and motivation because those skills help a leader respond to complex situations in viable ways.

Gardner (2006) discussed cognitive skills as five minds for success in learning and thinking for the future in a time of global change. Two of these, the synthesizing mind and the creating mind, connect directly to creative problem solving and leadership. The synthesizing mind calls for the ability to integrate ideas from different domains, synthesize them and communicate them effectively to others. The creating mind refers to the capacity to identify and clarify problems and questions, echoing the Mumford, et al. (1996a) studies on problem construction. Cases can also be made for the other three, the disciplinary mind, the respectful mind, and the ethical mind as characteristics needed from leaders, but these are not as directly related to the purposes of the current review.

Puccio, et al., (2007) identified the cognitive skills more completely, connecting each step of their Thinking Skills Model of Creative Problem Solving to a specific
cognitive skill and a specific affective skill (See Figure 2.7). They also make the argument that leadership and creativity are closely related and offer the following premises (p.xii):

- Creativity is a process that leads to change
- Leaders influence growth by facilitating productive change
- Creativity is a core leadership skill for change
- Thinking creatively and facilitating creative thinking in others can be enhanced
- Developing and promoting creative thinking impacts leadership effectiveness positively.
<table>
<thead>
<tr>
<th>Creative Problem Solving</th>
<th>Creativity</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Creativity &amp; Leadership</th>
<th>Creativity &amp; Leadership</th>
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<tr>
<td>Research→</td>
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<tr>
<td>Sensitivity to the situation</td>
<td>Search for opportunities</td>
<td>Factual, procedural, cultural, &amp; contextual knowledge</td>
<td>Accurate self-assessment and Organizational awareness</td>
<td>Gestalt: A need to see order and accuracy</td>
<td>Diagnostic Thinking – Analyzing to determine next step</td>
<td></td>
<td></td>
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<tr>
<td>Identify goal, wish or challenge</td>
<td>Clarify values by finding your voice and affirming shared ideals</td>
<td>Seek to reach a common good</td>
<td>Initiative - control of own destiny and seize or create opportunities</td>
<td>Vision: A drive to paint value-based word pictures about the future</td>
<td>Visionary Thinking – vivid concrete picture of desired future</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data gathering</td>
<td>Information encoding</td>
<td>Recognizing how knowledge can help or hinder a solution</td>
<td>Adaptability - multiple demands, ambiguities, limber in thinking with new data or realities</td>
<td>Formulation: An ability to find coherent patterns within incoherent data sets</td>
<td>Assess the situation – examine the situation and begin to gather information</td>
<td>Planning ahead and identifying important organization problems</td>
<td></td>
</tr>
<tr>
<td>Identify the problem</td>
<td>Problem construction</td>
<td>Experiment &amp; take risks by generating small wins and learning from experience</td>
<td>Problem analysis, problem redefinition</td>
<td>Achievement - seek performance improvements, set goals, adapt to change and challenge</td>
<td>Strategic Thinking: play out alternative scenarios in the future</td>
<td>Strategic Thinking – identifying gaps and paths to desired outcomes</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2.7. Leadership skills map
<table>
<thead>
<tr>
<th>Creative Problem Solving</th>
<th>Creativity</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Leadership</th>
<th>Creativity &amp; Leadership</th>
<th>Creativity &amp; Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generate ideas</td>
<td>Category combination</td>
<td>Envision the future by imagining exciting and ennobling possibilities</td>
<td>Belief in ability to accomplish the task</td>
<td>Change catalyst - recognize need for change, challenge status quo,</td>
<td>Creativity: break configurations in favor of more effective/appealing ones</td>
<td>Ideational Thinking – original mental images and thoughts</td>
<td>Importance of time and effort in generating creative solutions</td>
</tr>
<tr>
<td>Select &amp; strengthen solutions</td>
<td>Category selection</td>
<td>Foster collaboration by building trust and facilitating relationships</td>
<td>Idea analysis, willingness to tolerate ambiguity</td>
<td>Influence - find the right appeal, build buy-in from key people, build support network</td>
<td>Work orientation: A need to mentally rehearse and review</td>
<td>Evaluative Thinking - Contextual Thinking – assess reasonableness, quality &amp; circumstances</td>
<td>Criteria for evaluation, ID consequences and obstacles to overcome</td>
</tr>
<tr>
<td>Plan for action</td>
<td>Set the example by aligning actions with shared values</td>
<td>Willingness to risk, balance interests over short &amp; long term</td>
<td>Inspiration - shared mission or vision, exciting work</td>
<td>Discipline: need to impose structure onto life and work</td>
<td>Tactical Thinking – specific measurable steps and monitoring</td>
<td>Need for divergent implementation planning</td>
<td></td>
</tr>
<tr>
<td>Evaluate results</td>
<td>Recognize contributions, and Celebrate values and victories</td>
<td>Willingness to surmount obstacles</td>
<td>Service - maintain emotional climate so people keep in touch</td>
<td>Performance Orientation: be objective, measure performance</td>
<td>Develop a Performance Dashboard</td>
<td>Provide feedback based on growth and learning</td>
<td></td>
</tr>
<tr>
<td>Creative Problem Solving</td>
<td>Creativity</td>
<td>Leadership</td>
<td>Leadership</td>
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<td>Creativity &amp; Leadership</td>
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</tr>
<tr>
<td>Complete process</td>
<td>Overall process - effective predictors of quality and originality in performance</td>
<td>Enlist others in a common vision by appealing to shared aspirations</td>
<td>Wisdom: use successful intelligence, creativity, and knowledge mediated by values</td>
<td>Teamwork and collaboration - build active enthusiastic commitment &amp; relationships</td>
<td>Develop a framework by which to make sense of things, problem solving</td>
<td>Interactive CPS model, divergent and convergent balance</td>
<td>High value in divergent and convergent thinking in all stages; cyclical approach</td>
</tr>
<tr>
<td>Facilitation</td>
<td>Strengthen others by increasing self-determination and developing competence</td>
<td>Continue to grow intellectually, find extrinsic rewards for intrinsic motivation</td>
<td>Developing others - goals, strengths, weaknesses, give feedback, mentor, coach</td>
<td>Arranger: An ability to orchestrate</td>
<td>Leaders facilitate change so creativity is a core leadership skill.</td>
<td>Specific techniques to promote idea generation, guidance in use of analogies and information</td>
<td></td>
</tr>
</tbody>
</table>
Puccio et al. (2007) described the development of a change leader through a diagram, Figure 2.8, which indicates a process of learning, practicing and integrating relevant skills to widen the breadth of impact on followers.

Figure 2.8. Change leader development model


Leadership style. The Creative Problem Solving process used by the Creative Studies program utilizes a problem solving process that may be used efficiently by an individual, by a one-on-one relationship between a client and a facilitator, and by large groups with a facilitator consistent with multi-level theories of creativity (Drazin, Glynn,
& Kazanjian, 1999). Although throughout the history of the college program and individual practices the model of the Creative Problem Solving has evolved, the process of using it and maintaining the values has been fairly consistent. The values for training and for practice (Miller, Vehar, Firestien; 2001) include:

- No idea is a bad idea – all ideas are sought and all are written down – all have equal worth. The most strange, unlikely or unusual ideas, eliminated in other processes, give energy and enthusiasm to participants. Ideas are only judged in the affirmative, that is, what looks most promising is chosen without denigrating any ideas. Various techniques assure that one person is not driving the results.

- Unless there is a specific client, all decisions are made by the group using various convergent techniques. In a client situation, the whole group contributes ideas; only the client makes decisions. Roles and responsibilities may vary with each situation.

- The facilitator is the person charged with maintaining the process, contributing no ideas and making no decisions. If the leader facilitates, he will not be contributing. If she wishes to contribute, someone else facilitates.

Distributed leadership practice theory was drawn from distributed cognition and activity theory concepts (Spillane, Halverson & Diamond; 2001) and it integrated social context as a component rather than as a background. Leadership practice is not based just on the individual leader’s ability, skill, charisma and cognition, but on the complete situation in which it occurs, on the other people in the situation, and all the practices and tools in the situation. This concept was first suggested by Benne and Sheats (1948) who described leadership as a “multilaterally shared responsibility” (p.41).
Gibb (1968) did not believe every group had a leader and disliked the distinction between leaders and followers. He was the first to call this “distributed leadership” (Gibb, 1968, p. 94). Katz and Kahn (1978) stated that distributed leadership brought about stronger commitment to decision making, higher quality decisions and a fuller utilization of organization resources. Gronn (2008) stated “by de-monopolising leadership and potentially increasing the sources and voices of influence in organizations beyond just one, distributed leadership has helped widen the span of employee and member participation” (p. 154).

The programs at Buffalo State College teach a form of distributed leadership called facilitation. In problem solving groups the relationships are distributed in several ways, including the utilization of each person’s particular skills as needed, formation of task groups and a change of leadership for different problem solving tasks. Gronn (2008) also refers to this as hybrid leadership. The leader of a problem solving session is the facilitator. It may or may not be the person in charge of the work group. The role of the facilitator is to conduct the problem solving process and stay out of the content of the problem. This is helpful when the person in charge of the group wants or needs to be part of the content. That person becomes a member of the problem solving team and another person facilitates the process. Leaders who can shift positions in this way are particularly supportive to member development. A leader having an equal, but not greater, voice than other group members makes solutions a group effort. This implies that other group members trust the environment, the leader, and the process so that, as a group member, the leader isn’t driving the decisions. When the entire group has participated in that process, there is greater commitment to implementation of the solution.
Summary of the Literature

Some of the research collected suggested that creativity and leadership are the same thing. This is not the conclusion reached here. They are inter-related topics with common threads and philosophies. Both are concerned with personal choices to approach tasks and problems in effective ways. Both, assuming the leadership style is authentically transformational or hybrid, are involved with developing people and utilizing other resources effectively. Both are goal and future oriented.

Leadership is a role, not a position. It means taking responsibility in the moment to move in the direction of the vision. Creativity education provides some of the skills to make that possible. Creativity does not provide the domain skills needed for leadership in an organization, for example, but it may provide divergent and convergent tools to discover what those domain skills are and how to use them.

Creativity is a way of thinking, not a formula. It means taking ill-defined problems and working with them to provide sense and substance. Leadership education provides some of the skills to make that possible. Leadership does not provide the creativity skills for innovation of products and services, but it may provide the critical context of the domain in which implementation will take place.

Leadership is a way of thinking about why, where and when to add value in an organization. Creativity is a way of thinking about who could do it, what to do, and how to do it. From the research, it appears that creativity skills and leadership skills are a partnership rounding out the requirements for successful performance.

Because creativity and leadership are so closely linked, it would seem that there would be more crossovers in training and educational programs. There may be many
reasons for that gap such as misperceptions of both terms leading to apprehension about trying something new, comfort in colleges and universities with maintaining the status quo, or a view that adding material to courses is a long, tedious, and extra-work-filled process. It may be that the link between the two is ontological requiring more study of the topics to determine the full relationship and whether one is a subset of the other or divided into similarities and differences. It may be that the link is pedagogical involving a need to capture and produce the materials needed for transfer of knowledge of the two subjects and their relationships. It may also be epistemological requiring more explicit analysis of the subjects and how people currently understand and use them. This study addresses that link and formulates a theory of how it functions.

In Chapter Three, the methods used in the study are described. Chapter Four reports the findings. In Chapter Five the conclusions, limitations and implications for further study are covered.
Chapter 3: Research Design Methodology

The research question for this study was “What synergies, if any, are involved in teaching creativity and leadership together?” In this chapter, the grounded theory methods used in carrying out the study are explained. The purpose of grounded theory is to explain a unique situation by identifying the processes operating within it and to find a core process that links the others together. As expected, the methodology evolved as the study progressed. The data collected was used to develop a theory inductively. The basic questions were changed and developed as the data were received, coded, and woven into the fabric of the theory.

The Research Context

The research took place in private offices at Buffalo State College (BSC). This is a public institution with over a 130-year history. Originally a college for preparing teachers, the scope has expanded to other professions, sciences, technical fields, business training, and many multi-disciplinary areas, such as museum science. Certified by the National Council for Accreditation of Teacher Education (NCATE), a recent alumni survey showed that 76 percent of graduates were employed full time and 74 percent found a job within six months of graduating.

The department, referred to here as the Creativity Studies Department, is also known as the International Center for Studies in Creativity (ICSC). The department has been in BSC for over forty years offering an undergraduate minor program and a Master of Science degree program in Creativity. The initial classes in both the undergraduate
and graduate program are often taken as electives by students with full loads of classes in their own fields of study.

The undergraduate minor program consists of six courses: (1) Introduction to Creative Studies, (2) Creative Approaches to Problem Solving, (3) Creative Leadership Through Effective Facilitation, (4) Developing Creative Problem Solving Facilitation, (5) Applications of Creativity and Innovation, and (6) an elective course unrelated to creativity or the student’s major field of study in which creative thinking and problem solving are applied to a new subject. Students come from education, sciences, social science, public relations, criminal justice and the arts and letters programs. They reported that, because of the application of creative thinking skills, the creativity courses helped them do better in all their classes. The department also hosts a Leadership minor, also six courses, with some crossover in courses between it and the Creative Studies minor: (1) Foundations of Leadership, (2) Creative Approaches to Problem Solving, (3) Creative Leadership through Effective Facilitation, (4) Experiences in Leadership, and (5-6) two electives from a specified list.

The Master’s Degree program is taught in two formats and in two-phases. The formats are an on-campus evening program making it accessible for working professionals and a distance program taught online except for two-week summer institutes making it accessible to people around the world. The first phase consists of six three-credit-hour courses; (1) Principles in Creative Problem Solving, (2) Foundations of Creative Learning, (3) Creativity Assessment: Methods and Resources, (4) Facilitation of Group Problem Solving, (5) Creativity and Change Leadership, and a choice of one of two electives: Current Issues in Creative Studies or Foundations in Teaching or Training
Creativity. Two courses are taught in two-week summer institutes at the beginning and end of the certificate program. These comprise a certificate program in Creativity and Change Leadership which all students complete before applying for the full Master of Science degree. For some students in businesses or education, this is sufficient background to meet their needs. The second phase is a separate application for the Master of Science degree and students are selected to continue. This phase adds the other elective course from the certificate program, another summer institute and some electives offering one of three specializations:

1. The Foundations of Creativity strand surveys various approaches to assessing and defining creativity, as well as a variety of models and theories associated with understanding the nature of creative behavior.

2. The Creative Problem Solving and Facilitation strand emphasizes ways to deliberately foster creative potential by helping the student to learn, apply, and teach specific creative problem-solving tools.

3. The third strand, Research, Development and Dissemination, includes involvement with the department’s program of research, development, and dissemination. Students pursue a master’s project or thesis that makes a contribution to the emerging discipline of creativity studies.

Completion requires a Master’s thesis, a Master’s project, or a comprehensive exam. The required courses give all students an opportunity to develop practical leadership, facilitation, training or teaching, and problem-solving skills, while the selection of electives allows students to concentrate on acquiring knowledge and skills in another area of specialization (e.g., education, business, organizations, and
communications). The creative studies program challenges students to develop their creative talents and to become leaders of change in their professional lives.

Students from other programs may take the introductory courses as electives. Students from across the U.S. and international students from such countries as South Africa, Brazil, Canada, Italy, China, England, and Korea have participated in the program.

The Research Participants

The nine research participants are professors and adjuncts teaching creativity and change leadership. The shortest time in the department is two years; the longest is twenty-five years with all but one having five or more years. Overall, seven faculty members are full-time, and one is tenured. All nine have taught in both the graduate and undergraduate programs. One has taught every course. Rather than specialties, schedules are a cooperative effort though some have favorite courses to teach. All but two received Master’s degrees from Buffalo State College in Creativity. Six have doctoral degrees; one is in the dissertation phase of doctoral work, and two have positions with both teaching and administrative responsibilities. Two are considered adjunct faculty though they have been regularly employed for many years. Five are men; four are women. Eight are Caucasian; one is Hispanic. Ages range from 34 – 61. A few other adjunct faculty members were not considered for this study as they are not regularly employed by the college.

Of the doctoral degrees, two are Ph.D’s in Organizational Psychology, one Ph.D. in Communication, one Ed.D. in Curriculum and Instruction, one Ed.D. in Educational Psychology, and one Ed.D. in Educational Leadership. Research interests in the
department include organizational creativity; teaching materials development; effectiveness of problem solving training; creativity for children; creative women; holistic and aesthetic education; perceptions of creativity across cultures; leadership development, technological resources in creativity training; creative climate, theory and practice in the Torrance Incubation Model; constructivist theory in creativity and leadership; cognitive and affective skills in CPS: The Thinking Skills Model; and application of Creative Problem Solving in leadership. Most of the research done is not funded but conducted by the faculty to further the field and their own purposes.

*Instruments Used in Data Collection*

In grounded theory studies, there are generally no other instruments which might address the subject being studied or other theories to guide the preparation of an instrument. There was a basic set of questions to guide the study. In this study, “What synergies, if any, are involved in teaching creativity and leadership together” the following basic questions were developed:

- In what ways do they complement and/or contrast with each other?
- What impact, if any, have you seen in teaching them together?

The data was gathered through digitally recorded cognitive interviews (explained in the next section) of the research participants. Those data were transcribed, micro-analyzed and coded into initial categories discovering their properties and dimensions (open coding). These were analyzed for their relationships with each other in larger categories (axial coding) (Strauss & Corbin, 1998).
Procedures Used

In order to protect the confidentiality of the participants, they chose fictitious names. Each signed a consent form for the use of their data, for the statement of confidentiality, and for recording of their interview.

Recordings were transcribed digitally for ease in coding. A combination of notes and transcriptions kept visual observations in line with recorded data. Atlas.ti was used for storing and coding the data as it offered sorting and coding features that were useful and more expedient than hand coding.

Each initial interview took no more than one hour. A few basic questions were asked to encourage participants to think-aloud (Willis, 1999, p.3) and responses to the questions were used to develop verbal probes (Willis, 1999, p.5) to get additional and deeper information. These questions could not be anticipated before the interviews. Too structured an interview in grounded theory can result in the data being driven in the direction of the researcher’s own ideas and theories.

At the end of the interview, participants were asked to consider an additional half-hour at a later time, to share and clarify information that has been developed. This follow-up, actually done by email and informal interview due to everyone being on summer break, helped ensure that participant responses were objectively viewed since the researcher is also a teacher of creativity and leadership.

Data Analysis

In carrying out the analysis of this study, the procedures of grounded theory were used. First, through a process called open coding, each sentence from the first participant was micro-analyzed, word-by-word, and fragmented into data phenomena (central ideas),
or categories (concepts), with properties, classifications and dimensions. Sub-categories were formed (Strauss & Corbin, 1998). This helped identify additional questions that further informed the study as other interviews were conducted.

In the second stage, the process of axial coding, the properties and dimensions of the categories were analyzed to form links which eventually evolved into concepts. When no new properties, dimensions or relationships appeared, the study reached theoretical saturation, and selective coding, integrating the concepts and refining the theory, began. Selective coding connected the concepts into a theory integrating the categories. Then, actions and interactions were examined to find any changes in the data, or what made the data stay the same if conditions changed. This is coding for process. Additional analysis of conditions, consequences and contingencies explained the theory further. When the theory was reasonably complete, questions from it were taken back to the participants for theoretical sampling to check understanding, make the data denser, and clarify fine points (Strauss & Corbin, 1998).

When the theoretical sampling was complete, everything was documented, including notes/memos, the codes for the analysis and their contents, memos with thoughts on how information relates across categories and subcategories, diagrams or charts showing the relationships between concepts, procedures, directions, and suggestions. These formed the basis for the dissertation (Strauss & Corbin, 1998).

Triangulation is an important part of solidifying a grounded theory and several approaches were considered (Denzin & Lincoln, 1994). As this is a single researcher work and there was not a structured interview process investigator triangulation was not a logical option. This study basically looked at experience from the perspective of the
individuals based on personal knowledge, subjectivity and interpretation. Trying to quantify data, or trying to improve the program from an outside view as in action research, might provide some differences, but would cause confusion and not be valid due to the numbers of participants. Consideration was given to other data sources than the individual interviews. Those sources were the research in chapter two, an analysis of various college programs also found in Appendix A, and the descriptions of all the courses in the Master’s program. The research resources such as Boyatzis and Saatcioglu (2007), Isaksen and Parnes (1985), Mumford et al. (2000) and Sternberg, Jarvin, and Grigorenko (2009) in which teaching of creativity and/or leadership offered other theories with which to triangulate.

Summary of the Methodology

As described in Chapter One, leadership researchers point to the need for creativity and creativity researchers point to the connection between creativity and leadership. Leadership and creativity skills lead to success in work and life by informing and equipping leaders to implement change. There were no theories to explore explaining how the two work together. It was logical to develop information about the nature of the circumstances in which the two subjects are taught together. Teachers in such a program offered insights useful to both fields of research.

Following all procedures for ethical studies and permissions, the study took place with one participant at a time using coding procedures after each cognitive interview. Most of the questions developed as verbal probes (Willis, 1999, p. 5) to elicit deeper, more detailed information. Data analysis was done in accordance with the grounded theory methods of Strauss and Corbin (1998) calling for open coding, axial coding,
selective coding and coding for process. Chapter Four shows the results of the coding and analysis and how the final theory was developed. Chapter Five summarizes and discusses results and implications.
Chapter 4: Results of the Study

In this chapter, the results of the inquiry are explicated. Information from coding of the eight interviews is interwoven with codes from the course descriptions and objectives. Connections are made to the literature review. The interrelationship between major code categories are made clear.

**The Study**

Eight instructors in the Creative Studies program at Buffalo State College participated in approximately one-hour individual interviews regarding their thoughts on creativity, leadership, teaching the two topics together and their backgrounds. Some follow up discussions were held informally and by email. The instructors chose pseudonyms for inclusion in this study, except when their specific work was discussed. The names you will see, in alphabetical order, are Dr. Mongo, Ezmerelda, Giuseppe, Jack, Jazzlyn, Mildred, Rupert, and Vidal. Unfortunately, the ninth instructor, Dr. Mary Murdock, who had planned to be part of this process, passed away before the interviews began though her work and counsel has influenced this outcome. The interviews were voluntary for all faculty members, and no one refused. Each interview was taped, transcribed and entered into a hermeneutic unit in Atlas.ti software. This was completed over a four week period based on the instructors’ availabilities. The instructors range from mid-30’s to early 60’s in age. Five were male, three were female. Each had taught multiple courses in the Master of Science in Creative Studies and undergraduate curricula.
Questions were asked in a mixed method. The initial questions for each were which definitions they liked to use for creativity and which for leadership. Additionally, each was asked the following standard questions though wording varied and the questions were not asked in order:

- How, and with what background, did you come to this program?
- How do you feel about teaching creativity and leadership together?
- What do you think is the value of this program?
- If you were hiring a leader, where would you look?
- If you couldn’t teach in this program, what would you do?

Other questions were random and based on the answers or discourse following previous questions. In addition, the course descriptions, objectives, learning outcomes, content and reasons given for the most recent course revisions of seven required three-credit-hour courses, two three-credit-hour electives offered by the department (other multi-disciplinary, but connected, electives are allowed), and a choice of a Master’s project or thesis (See Table 4.1) offered in the Creative Studies Master’s program were gathered and added to the data. A comprehensive examination of the specific portfolio of study is also an option for a student, but not covered in this study as there is no course description. There are additional courses which are specific to working with gifted and talented education, but these also were not included in this study.
Findings

Coding was not done in advance to assist in eliminating potential researcher bias that might result from being a graduate of the Master’s program and an instructor in the companion undergraduate minor program in Creative Studies. Using Atlas.ti, all data were open coded throughout the interviews and the analysis of the courses resulting in 208 codes with a total of 2744 connections. Open coding allowed collection of a variety of topics which could be sorted, combined into salient groups and further examined. Initially, codes were grouped together if they were basically the same topic but worded differently. That resulted in 98 grouped codes. This was an inconvenient number and several codes could cross over into other groups so ten major categories of data were
identified and each code sorted into one of these. The categories were chosen based on the original question, “What synergies are involved in teaching creativity and leadership together?” This meant an examination of leadership, of creativity, of the two main processes used in the teaching (Creative Problem Solving and the Thinking Skills Model), of the course curriculum, of the faculty, of the value of the program, of comparisons with other known programs, and of evaluation of areas in the program that might be concerns. An eleventh category was added after examination of the results revealed the importance of the creative environment. The categories were chosen qualitatively and not based on quantitative numbers of connections. Categories were named as gerunds from the Charmaz (2006) grounded theory method chosen for this study. Those codes fitting in more than one category were placed in each as appropriate. The categories are described as follows and a list of codes is found in Table 4.2:

- **Creating:** This includes comments about the general field of creativity.
- **Leading:** The category references leadership as it is practiced, understood, studied, or observed by the participants.
- **Creative Problem Solving:** These are direct responses referring to the Creative Problem Solving process which is the basis for all the courses in this program.
- **Thinking skills:** Most recently a new problem solving model, Creative Problem Solving: The Thinking Skills Model (TSM) (Puccio, Murdock & Mance, 2007) was adopted and is being integrated into the program. While it is similar to the Creative Problem Solving process described above, there are differences significant enough to warrant a category.
• Instructing in Creative Studies: The backgrounds, experiences, visions and 
interests of the faculty are in this category.

• Structuring Classes: Included are codes from the curriculum and instructors 
comments on various courses.

• Contributing to students: The value of the program in the learning it offers to 
students is the gist of this category.

• Connecting Leadership and Creativity: This offers the views of the instructors 
on how creativity and leadership are connected along with information from the 
curriculum to illustrate where and when the connections occur.

• Comparing Creative Studies to other programs: The instructors identify the 
differences between this program and other potential leadership training programs they 
may know about, particularly MBA programs.

• Evaluating Creative Studies: This involves the instructors’ views of the 
program, how far they’ve seen it come, how they work together, how well the program 
works and what else might be done to improve the degree.

• Creating Environment: Comments made by the instructors emphasized 
various elements of the environment necessary for creativity to take place.
Table 4.2

*Categorized List of Codes*

<table>
<thead>
<tr>
<th>Category</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating</td>
<td>• 4 Ps – Person, press (environment), process, product</td>
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<tr>
<td></td>
<td>• Adaptor-Innovator</td>
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<td>• Creativity Definition</td>
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<td>• Creative Environment</td>
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<td>• Creative thinking</td>
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<td>• Creativity</td>
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<td>• Deliberate Creativity</td>
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<td>• Design thinking</td>
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<td>• Flow</td>
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<td>• Freedom</td>
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<td></td>
<td>• Serious creativity</td>
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<tr>
<td>Leading</td>
<td>• Accountability, Responsibility</td>
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<td></td>
<td>• Attitude, Vulnerable, humble</td>
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<td></td>
<td>• Blocks/Paradigm Shift/Resistance</td>
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<td></td>
<td>• Business/Entrepreneurial/Organizations</td>
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<td></td>
<td>• Change, Change Leadership, Change resistance, Innovation</td>
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<td></td>
<td>• Coaching/Counseling, Staff Development</td>
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<td>• Confidence, Fear</td>
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<td>• Decision making</td>
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<td>• Diversity</td>
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<td></td>
<td>• Emotional intelligence, Social intelligence</td>
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<td>• Ethics/Values</td>
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<td>• Flexibility</td>
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<td></td>
<td>• Follower, Followership</td>
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<td></td>
<td>• Interpersonal skills/Giving credit/Empowerment</td>
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<td></td>
<td>• Knowledge base</td>
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<td></td>
<td>• Leadership Definition</td>
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<td>• Leader Roles, Leader Skills, Leadership Development</td>
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<td>• Leadership style, Authentic Leadership, Servant Leadership,</td>
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<td></td>
<td>Emerging leader, Relational Leadership, Positional Leadership</td>
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<td></td>
<td>/Hierarchy/Power base, Transactional Leadership, Influence</td>
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<td></td>
<td>• Listening, Mentor, Mentoring</td>
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<td>• Motivation/Passion</td>
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<td>• Risk Taking</td>
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<td>• Self Awareness, Self Image, Self Leadership</td>
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<td>• Strengths/Play to strengths</td>
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<td>• Trust, Consistency, Transparency</td>
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<td>• Vision, Mission, Goals</td>
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<td>Category</td>
<td>Codes</td>
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<tr>
<td>Creative Problem</td>
<td>• Ambiguity/Tolerance for ambiguity</td>
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<td></td>
<td>• Clarifying the problem</td>
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<td>Solving</td>
<td>• Complex challenges/Challenge</td>
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<td></td>
<td>• Context</td>
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<td></td>
<td>• Creative Problem Solving</td>
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<td>• Creativity Principles, Skills, Tools</td>
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<td>• Crisis/Conflict</td>
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<td>• Critical thinking</td>
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<td>• Defer judgment</td>
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<td>• Divergence/Convergence</td>
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<td>• Dynamic balance</td>
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<td>• Evaluating ideas</td>
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<td>• Explicit implicit</td>
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<td>• Facilitation</td>
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<td>• Feedback/ Affirmative Judgment</td>
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<td>• Gather data/sharing info</td>
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<td>• Group/Team/group dynamics/Storming</td>
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<td>• Guidelines/Heuristics</td>
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<td>• Ideation/Idea support</td>
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<td>• Ill defined problems</td>
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<td>• Implementation</td>
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<td>• Internalizing process</td>
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<td>• Language and terms</td>
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<td>• Openness</td>
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<td>• Opportunity</td>
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<td>• Problem Statement</td>
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<td>• Process, Product/Invention</td>
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<td>• Quality of outcomes</td>
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<td>• Rational cognitive semantic</td>
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<td>• Tolerance for Error/Mistakes</td>
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<td>• Tools and techniques</td>
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<td>Contributing to</td>
<td>• Personal change/growth</td>
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<td>the students</td>
<td>• Interpersonal change</td>
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<td>• Perspective</td>
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<td>• Value of this program</td>
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<td>• Elegance</td>
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<td>• Impact/Legacy</td>
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<td>• Potential/Transformation</td>
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<td>• Use of creativity</td>
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<td>Thinking skills</td>
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<td>• Ambiguity/Tolerance for ambiguity</td>
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<td>• Assessing the situation</td>
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<td>• Change Leadership</td>
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<td>• Tactical</td>
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<td>• Thinking Skills Model</td>
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<td>• Tools and techniques, Verbal or Visual</td>
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<td>Instructing in</td>
<td>• Academic Experience</td>
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<td>Creative</td>
<td>• Attitude</td>
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<td>Studies</td>
<td>• Department Vision</td>
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<td>• Diversity</td>
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<td>• Experience</td>
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<td>• Future/Interests</td>
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<td>• Global/Worldwide/International</td>
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<td>• Leading Change</td>
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<td>• Leading Your Life</td>
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<td>• Life skills</td>
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<td>• Making a Difference</td>
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<td>• Social construction</td>
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<td>• Success story</td>
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<td>• Teaching Creative Leadership</td>
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<td>• Teaching Creativity Experience</td>
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<td>• Technology</td>
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<td>Category</td>
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</tbody>
</table>
| Structuring Classes  | • Application of skills  
|                      | • Assumptions  
|                      | • Curriculum, Courses/Course material  
|                      | • Experiential/Interacting/Participative  
|                      | • History  
|                      | • Issues  
|                      | • Learning/Activities/Service learning  
|                      | • Interpersonal Measures – FourSight, MBTI, Kirton Adaptor-Innovator, Leadership Practices Inventory  
|                      | • Practical  
|                      | • Practice  
|                      | • Professional/Selling creativity  
|                      | • Quantitative qualitative  
|                      | • Research  
|                      | • Student Development  
|                      | • Theory  |
| Connecting Creativity and Leadership | • Creativity Beginnings  
|                      | • Leadership and Creativity Connections  
|                      | • Leadership Beginnings  
|                      | • Planning  
|                      | • Positive change  |
| Comparing Creative Studies to other programs | • Algorithmic paradigms  
|                      | • Hiring to balance skills  
|                      | • Inclusion or exclusion of creativity and/or leadership in curricula of other programs  
|                      | • Interpersonal skills  
|                      | • MBA programs  
|                      | • Worldwide programs in creativity and leadership  |
| Evaluating the Creative Studies program | • Disconnects  
|                      | • Effect of faculty  
|                      | • Flaws in the system  
|                      | • Manipulation  
|                      | • Need more or less  
|                      | • Politics  |
| Creating Environment | • Building climate for idea sharing  
|                      | • Openness to ideas and ambiguity  
|                      | • Taking risks  
|                      | • Time to work on ideas  
|                      | • Tolerance of error  |
Codes titled Ownership, Beyonders, Bad Days, Group Think, Balance, and Comfort Level were eliminated because they had only 1-4 connections, the connections weren’t consistently on the same topic, or they didn’t relate well to the rest of the study. The quotations were re-coded into other categories.

Following are the data from each of the categories identified above as keys to this study.

*Creating*

Like researchers from literature, the faculty didn’t all subscribe to the same definition of creativity. Seven of eight started with a version of the most widely used “novelty that is useful,” usually ascribed to Gryskiewicz (Gryskiewicz, Holt, Faber & Sensabaugh, 1985) Giuseppe expanded this:

I really like that definition because it’s sort of a compressed conflict, the novelty and the usefulness is sort of a synthesis of two forces that pull in different directions which I think is what is absolutely the core to creativity, this rectifying of those forces that pull in different directions. So it also helps to overcome the mythology or the misconception that creativity is just about being different and I think underscores why creativity is so rare, to produce something that is original and at the same time serve some value is an uncommon combination, an uncommon outcome.

Mildred added the mathematical definition developed by Noller for classes in the 1970’s, \( C = f_a(KIE) \) or “creativity is a function of knowledge, imagination and evaluation reflecting an interpersonal attitude toward the beneficial and positive use of creativity” (Noller, p. 5) Vidal preferred the Ackoff and Vergara (1981) definition, “creativity is the
ability to overcome self-imposed constraints.” Giuseppe added that also, and as a third
definition used the Rhodes (1961) systems approach commonly known in the Creative
Studies department as “the 4 P’s.” In his words,

Creativity is the confluence of person, of thought process, of an environment
(press) that influences the person, or teams for that matter, engaged in processes
to produce new useful ideas that we hope eventually get adopted and that’s when
we get a creative outcome (product) and produces change.

Several courses (CRS 559, CRS 560, CRS 580 and CRS 670) have portions of the
content organized around the Rhodes (1961) creative person, creative press
(environment), creative process, and creative product organizing system. While all
definitions mentioned are well accepted in creativity research, the faculty also encourages
students to define creativity for themselves. This is illustrated in the course catalog
description of CRS 635 as “It (this course) provides a theoretical and practical launching
point for students to examine their future contributions to the field, domain and discipline
by articulating their personal philosophy and definition of creativity.” In general, it is
acceptable in the Creative Studies department to take a constructivist approach to the
definition.

Creative thinking, often referred to as thinking outside the box, might be
considered possibility thinking. It involves taking risks, so many people are afraid to use
it, even some students who learn the processes and believe in their value. It does serve
specific organizational functions such as helping create vision. As Jack said,

One of the powerful things about creative thinking in general is that it focuses, at
least in my experience, on keeping things positive, looking at what’s good, what
works, how we might do things better as opposed to what’s dysfunctional, what doesn’t work and sort of dwelling in the stuff that’s kind of negative which we can easily get mired down in.

**Leading**

The definition of leadership was less agreed upon although four people used the term influence relationship. Three used a definition that included a relationship with followers, one definition involved interpersonal and intrapersonal skills and Mildred defined leadership as a process “coming forward when the opportunity arises and your talents play into it and it’s your time, and understand when that is and when it isn’t and what you can contribute and when.” All agreed that leader is not a positional role, more of a situational and context-based role that anyone can hold at a particular point in time.

Rupert: Leadership really means being a servant to those that follow so those followers can achieve the vision. The leader is not supposed to do the tasks, the leader is the person who gets others to willingly do the task and then, in the end, the glory, the rewards, the whatever it might be, that’s theirs. I do believe that when leadership is handled well that the followers feel as though they did it without him. The leader is so transparent they could have done it on their own; it’s that kind of concept. … Yeah, leadership is not a role, it’s a way of approaching the world; it’s a way of life. It’s what a person becomes, it assumes, authentic leadership assumes skills in creativity and leadership, and it assumes skills in creativity and followership. Authentic leaders are good followers, yeah, and will let leadership emerge as the need demands of it. It’s true, it’s not forced, and it’s full of uncertainty.
Jack: I think we’re always involved in leading other people whether we want to consider them constituent stakeholders or followers, although I don’t like the term follower, and so I think it’s always leading within a context with other people and so relationships are a lot of what leadership is about … what we’re trying to do is influence others in some way, either to fulfill the goals of the organization or group that we are leading within to find their own empowerment.

Giuseppe: So leadership ultimately is about influence, it’s a process that we have to be mindful of what we’re doing, how we are influencing what are the things that we can do to be more skillful at influencing, and the social context. So with that notion it involves relationships and being skillful at having relationships.

The Leading category involved the most connections as there were many codes that fit under the general term. Many of the codes involved skills that leaders need such as accountability, responsibility, coaching and counseling, confidence, emotional intelligence, decision-making, flexibility, interpersonal skills, listening, risk taking, diversity and social intelligence.

Jazzlyn: It’s in those big intense complex problems that you really get tested on your leadership and your creativity skills. …I think an effective leader has to be a good problem solver, that’s first and foremost. They have to be able to navigate complexity. They have to be able to defer their judgment. They have to be willing to take risks.

Rupert: And then a key item is listening to understand. One of the problems that that inherits is as a person is listening to others particularly in a group setting where there are ideas being exchanged fairly rapidly is that as I’m listening to
understand, and I’m processing the information, and I’m being affirmative - what
do I like about the idea as opposed to killing it right off.

Ezmerelda: We went to the presentation that was done on international leaders
and the skill set for what makes someone successful at that level and they had all
their rubrics, and it was fascinating, the skill set. One of the things that they were
looking at specifically is the idea of what makes one person able to negotiate
living in a different country, working with the a different culture, and they looked
at all the attributes of a person in that situation.

Attributes of a leader included a positive attitude, ethics, values, knowledge base
in the domain, motivation, passion, self awareness, self leadership, positive self image,
consistency of actions, and transparency of motives. Another group of codes involved
leadership styles such as servant leader, transactional leader, transformational leader,
emergent leader, and acting on any style as an authentic leader.

Dr. Mongo: I need to know in my leadership role the behaviors of people that are
working in this organization are going to exhibit and also when they come to me
with a new idea, I need to know how to behave, to understand or accept that idea
because if I don’t I will be the biggest blocker to this process.

Mildred: So the biggest thing, and this would be hiring for any position, but
particularly the authenticity that somebody is thoughtful, authentic, somebody has
vision, has a passion about what needs to happen and, that can be different
depending on where you’re at and what’s happening.

Jazzlyn: I think if everyone plays to their strengths … and they emerge
authentically as leaders in whatever they choose to do. But if you try to force
something, if it’s like “Well I have to do this for work,” or “I have to do this as part of the assignment” and you’re not intrinsically motivated … you’re going to be doing it, but it’s probably not going to be your best work. If you find the passion and the motivation and energy around something then you move forward and you … follow your passion, then you emerge as a leader in whatever you plan on doing.

This category also included any references to businesses or organizations that the instructor might have been involved with, might consult for, might know about, might have heard about from a student or might have studied in some other way. These references provided context for the comments on leaders and how they operated in these locations.

Jack: I was really interested in politics for a while and leadership in politics, really interested in the psychological and sociological research revolving around workplace satisfaction, employee morale, employee development, that kind of thing, so it was kind of always to say I was kind of always on the side of the employee or the constituent, the follower, the stakeholder when it came down to looking at the leader-constituent relationship.

Dr. Mongo: Yeah, part of my program … when we were starting to work with organizations, particularly in the ‘90s when we would work with the leaders in those organizations because they were very interested in establishing a climate for creativity, a climate for change and the only way you can get that going is to get the leaders involved so that they know the language, they know what’s going on, they know what’s happening.
Some concerns were expressed regarding the inclusion of leadership into creativity programs. This centered around the possibility of leadership principles crowding out the emphasis on creativity in the program.

Jazzlyn: So it’s not that I don’t find leadership interesting and that I don’t believe that there is a link because I do, but it’s not where I say let’s go in a creativity and leadership direction. Like I want to keep us a creativity department and I’ve said that at faculty meetings. I said, “yep, I see the link let’s definitely keep it here, let’s definitely keep it here but do I want to make this a creativity and leadership program? No.”

Mildred: I have a strong view about the fact that our Master’s program is a Master’s in creativity and that anything else you bring in it enhances it. However, I should not see any course where the content is focused somewhere else other than creativity because God knows there’s a lot of content in creativity, so if you’re going into another discipline’s content and focusing heavy on that it would be my hunch that you are not doing as well with the content of creativity or the focus of the course.

Dr. Mongo: It’s just so interwoven that when you’re in the role of a leader you need to be a creative person, but you also need to be aware of the processes that go on and how to set that climate for creativity that we know about. So I know there’s a lot of other stuff involved in leadership, setting the vision, well that’s a creativity thing, kind of interacting with people, well that’s a creativity thing. I mean you could launch so much stuff under the creativity rubric as far as leadership is concerned that I don’t see a really big distinction, I just think it’s like
when you know how to do your creativity stuff and you’re in a leadership role
then you better be a creative leader.

While the connections between leadership and creativity were clear to each person, the
love of the creativity program and respect for the growing body of knowledge in the field
raised questions of how much, how often, and in how many courses leadership pedagogy
should be introduced. In fact, eight of the eleven courses (CRS 559, CRS 610, CRS 614,
CRS 635, CRS 670, CRS 680, CRS 690, and CRS 795) examined referred to lead, leader,
leading or leadership in the course descriptions, objectives, content or reasons for
curriculum change.

*Creative Problem Solving*

There are two ways to look at creative problem solving. One is as a general term,
creative problem solving, small case letters, referring to any process leading to a solution
with new and useful results and the other is Creative Problem Solving or CPS, upper case
letters, referring to the rational, cognitive, and semantic process first developed by
Osborn and Parnes (Parnes, 1992) and used as the basis for all the courses taught at
Buffalo State College. For the purposes of this study, no distinction was made between
these two views. References in this section, for the most part, refer to CPS as it is most
familiar to all participants.

The stages and steps of CPS were outlined in Chapter 2. They appeared also in
the interviews with the instructors. Since internalizing the process is one of the goals for
efficient use as identified by Parnes in original classes, it would seem from the references
that this has been accomplished by the instructors. The major principles of deferring
judgment (not allowing negative or positive responses to ideas during idea generation)
and dynamic balance (a balance of problem solving time spent on diverging to produce data and then similar time in converging on data generated in each step) were also evident in the interviews and in the course descriptions. Creativity skills, tools, heuristics, guidelines, language and tools became some of the codes in this category. Emphasis was also placed on context for problem solving and on the environment needed for creativity as seen in Ekvall’s (1996) dimensions of creative climate. There is full recognition that problems for leaders today are complex and often ill-defined. CPS is designed to address such problems assuming the attitude and skill set of those involved are commensurate with that complexity.

Jazzlyn: What I want my students to walk away with is that confidence and I’m going to trust myself and I’m going to trust the Creative Problem Solving process and, when I have something handed to me, I’m able to navigate through that in a way that is effective.

Dr. Mongo: The work I’m doing now … one of the biggest things that’s helped me with this … is clarifying the problem, clarifying the situation. It’s just amazing, by doing these sorts of skills … I’ve had to really learn to flex … that’s the skill for this kind of work. So being able to take a look at the work you’re in and say “oh, if I focus over here on clarifying that’s going to help me be better here.”

CRS 559: Identifying the six-stage three component approach to CPS and the creative thinking skills that are necessary to use it effectively.

There is a kind of reverence for this process. At times, it seemed that the department had equated creativity and Creative Problem Solving. In a follow up
interview, Rupert expressed that while creativity is often studied from a psychological perspective, the department is focused on an applications perspective and CPS, and now the Thinking Skills Model, is the tool used to develop applications. The reverence for the process is also evidenced in the time it has taken to adopt CPS: The Thinking Skills Model (Puccio, Murdock & Mance, 2007).

Jazzlyn: I was looking at … where does intuition play a role in the Creative Problem Solving process, and there weren’t a lot of clear answers. It came in deferring judgment and it came in convergence. But it’s all about skills, it’s all about these intuitive skills, it wasn’t about the process, it was about the skills. And that’s when I realized how valuable the thinking skills model is, and that’s why I changed my perception in the creative problem solving process after teaching it for 10 years. I really think it’s much more about the skill set that we’re building versus the process. So I’m in love with the thinking skills model now.

*Thinking Skills*

CPS: The Thinking Skills Model (Puccio, et al., 2007) was based on the CPS process and added new dimensions to it. The major principles of deferring judgment and dynamic balance were continued. A cognitive and an affective thinking skill were added to each step to clarify the differences in creative thinking needed for each one. The process was rearranged graphically (see Chapter 2) and in terms of steps to facilitate understanding that it is non-linear. There is more emphasis on skills than on steps in the process which assists in explaining its non-linearity. There is an element of metacognitive thinking in the initial step, sometimes called the Executive Step since it is the decision making step on how to proceed, consisting of the cognitive skill of
diagnostic thinking and the affective skill of curiosity to assess the situation being faced and determine what kind of thinking skill would next be most useful. One of the outcomes of CRS 614 is that “students will define and describe what is meant by thinking skills and cognitive tools.”

Dr. Mongo: “Got it” means it’s not only a cognitive, but it’s an affective side as well. We’ve had long conversations about this and it’s the affective side of the process. I mean you can facilitate, you can conduct an idea generating session, you can be a resource group member in an idea generating session, but then as soon as you get into a tough situation you revert back to your old behavior.

The model is accompanied by a logic sequence indicating that since creativity leads to change and growth and those are goals of leadership, creativity is a core leadership skill (Puccio, Murdock & Mance, 2007). Connecting creativity and leadership through the need for change and growth mirrors other research (Mumford et al. 1996a, b, c, 1997a, b; Kouzes & Posner, 2007; Sternberg, 2003, 2005, 2007; Reiter-Palmon & Illies, 2004). Ezmerelda stated, “As we were looking to develop the leadership program (what we found) was Mumford’s work and that was where we said, “Oh, here’s a direct connection between creativity and leadership that we can use in our program.” Like CPS, the Thinking Skills Model recognizes that in today’s global perspective the challenges faced by leaders are often complex and ill-defined so a model for working through them is extremely helpful.

Vidal: Let’s take the thinking skills model. So there are tools for bringing around clarity, and there’s tools around bringing ideational thinking, and there’s tools certainly around tactical kinds of thinking, and so all those tools that fit within
those buckets I think are skill sets that help bring about … leadership skills in whatever context.

Affective skills identified in this model are a unique new piece. The process begins with an attitude check to remind participants to be open to novelty, and to be tolerant of ambiguity and complexity.

Vidal: Well, it could be emotional intelligence or looking at what are the certain mindsets or the attitudes to acquire. What are the affective skills required for creativity to manifest. So if you’re looking at curiosity, you’re looking at openness, if you’re looking at playfulness what blocks you from fully engaging in that. I mean how are you feeling when I bring out Play dough or Slinkies, why do you feel uncomfortable being playful, what is it? Why aren’t you willing to explore, go further down?

Giuseppe: I believe today in order to be effective, we must recognize that the person who is leading, having influence, to be effective over a long period of time, isn’t going to have all the answers, given the fact that situations are ambiguous and complex, and there are multiple right approaches, and therefore, it’s, I think, incumbent upon that person who’s trying to exert leadership to recognize that others have much to contribute so the whole skill set of facilitative leadership falls, for me, under the rubric of creative leadership, and so how does that person skillfully draw ideas out of others and facilitate creative thinking in others, and encourage creative thinking in others for the good of the group, unit, division, organization, community, whatever it happens to be and I think that that
takes a set of skills that hasn’t necessarily been focused on in the leadership literature.

Ezmerelda: So you kind of challenge your own thinking. And we’re in a different place now in helping people to understand what they (affective skills) are and also elaborating more on them so it’s not here are all the cognitive skills and here’s what they mean and here’s how you use them, oh and by the way, here’s some affective skills, and so it’s more, I think, a balanced approach.

Room is left in the process for the utilization of these skills as well as intuition and incubation. Jazzlyn said, “I want them to be able to be emotionally intelligent, which is coming out to be a really big piece, and with that an emotional time.” At times, these affective skills may seem inane to corporate participants who have grown up with a belief that logic is all that is needed and that there is one right answer rather than recognizing that emotions play a large part, especially in implementation, and that several answers need to be evaluated before choosing the one that seems most correct to solve the problem and fit in the context.

Vidal: So leaders, in my opinion, are brought on board not to execute solutions that people already know how to execute, but to find new solutions and bring in new thinking to these challenges and also to bring in new thinking for challenges that perhaps people don’t even know are out there yet.

Jazzlyn: To be sensitive to the environment, to be sensitive to other people, to understand and listen to themselves, to feel confident about their ideas and to be willing to take risks in order to put those ideas into action.
Instructing

The faculty is an unusual group of academics. They are interested in a broad range of subjects, open to new ideas, follow an informal and participative organizational style, challenge themselves as well as the students, and no one wants to retire – possibly never. Giuseppe said, “I don’t see myself moving on necessarily, so my challenge is how do I continue to challenge myself.” Dr. Mongo said, “Oh very clearly ... I’m just going to keep doing this …’til they carry me out, yeah.” When asked why he sought the position at Buffalo State, Vidal replied, “I wanted dynamism, I wanted to be able to research, I wanted to be able to write, I wanted to be able to consult, I wanted to teach, I wanted to advise.” Mildred indicated, “it’s this funny thing, I want more time to write, but I miss it if I’m not teaching, teaching is the heart of it.” Later she added,

Look at the colleagues; I don’t think most of them enjoy their jobs as much as we do. We’re really very skewed with regard to the kind of people that are hired here. They have a very strong intrinsic motivation for a unique field, a passion and a vision around it.

This does not seem to be connected to the background of the individuals. They have such diverse work and educational backgrounds as landscape architecture, theatre, administration, human resources, training and development, K-12 education, entrepreneurship, communications, industrial/organizational psychology, and politics. Seven of the eight do hold the Master’s degree in Creative Studies. If they could not teach in this program, they indicated some of the following alternatives:

Jack: I think if I couldn’t teach here I would be more prone to living in poverty for a very long time and hanging out a consulting shingle and just trying to like go
in and talk to people about, if I couldn’t teach the stuff, go in and see if I could talk to people about it, just hopefully someday get them to pay me for it.

Dr. Mongo: So what I want to do is teach a couple classes here, play around with some new stuff, play around with the thinking skills, try it out, do a couple consulting jobs now and then. … Now is the time I think to not rest on your laurels but for me to explore some different aspects of life. Some things I’ve never learned about before, which is why the trading is so much fun, which is why, I’m learning how to cook, I’m doing all this kind of stuff.

Vidal: I’m wondering if the facilitation skills have to be modified (for virtual technology) or what are they going to require. How do you deal with information anxiety? How do you deal with when you don’t have everybody in the same room, and when you don’t have access to feedback loops per se because they think leaders require access to these feedback loops that allow you to either redirect or to calibrate, whatever the case may be, in order to manage groups. And so I’m really curious about doing more kind of ethnographic work to see how leaders function in those kinds of platforms.

Mildred: Yes, yes, go back and teach kids, or I always wanted to run a bed and breakfast, thought that would be interesting. I could be street musician but I can’t really, I don’t have any talent around that, but it does sound like fun. Lead tours, I mean there’s all kinds of cool things that would be fun to do. But if I wasn’t doing this I would probably be teaching kids in some way. … I can see myself living out my career and doing lots of varying things. As Mary Murdock used to say, “You have to have texture in your life and different things”, and a job like
this gives you lots of that, where you can focus on what you want to do. So if I should ever decide to do something else it will probably be to continue to do those kinds of things but not within the structure of a university, whether it’s teaching or writing or something.

Giuseppe: I would love to make money from travel, like writing travel pieces and so forth; that would be lovely. I’m attracted to health care, MD I could see myself doing - again that helping, that tendency to want to help people. Sometimes I think maybe it would be fun just to be a PE instructor because I do really enjoy sports and working with kids, and then there’s something about sports psychology that I find very attractive as well. So, varied interests.

Rupert: I’d renew my flight instruction certificate and teach flying. And I’d do crafts, like making wooden treasure boxes for kids so they could bury their treasures under a tree somewhere.

During the last year, the faculty developed a new vision, “Igniting creativity around the world: Facilitating the recognition of creative thinking as an essential life skill.” This has become the driver for new programs, expansion of the distance learning version of both the certificate and Master’s degree programs, and now a development of lists of some specified courses in other Master’s programs that connect well to Creative Studies and allow students to more easily focus their learning on application of the Creative Studies courses to their field of work. Technology has advanced and the department has a location in the Buffalo State Second Life site where virtual conferences may be held. The website has been expanded to include podcasts and there are accounts
in both FaceBook and Google so anyone can learn more about creativity and about the program.

Vidal: What’s it going to be like if I don’t do something to embrace the ambiguity and keep up with the technology? What’s going to happen when they (today’s technology savvy students) make it into my classrooms, or I’m asked to consult with a company or do training.

Concepts of leadership and creativity held by faculty are important in that they drive what students receive. Of note was the great love for and dedication to Creative Studies and the Creative Problem Solving process in whatever format (CPS, Thinking Skills Model, Plain Language Model). For some, this colored their view of leadership concepts being introduced into the program for fear there would be less time for covering the massive amount of creativity literature that is growing daily. For others, it seemed that leadership was always a part of the program, it just wasn’t made explicit. All agreed that leadership was connected with, or a byproduct of, the focus on facilitation. Facilitators are charged with creating an open and inviting environment where people can discuss complex challenges honestly in a manner leading to a productive outcome. Having the cognitive, rational, semantic and repeatable processes (Creative Problem Solving and the Thinking Skills Model) that promote deliberately creative (novel and useful) solutions gives the facilitator, or leader, a powerful tool.

Jack: Besides the fact that it (creativity, creative thinking) brings new energy, I think it is where the future of leadership is. I think if we’re looking at our world, we’re looking at globalization, we’re looking at the fact that we’re dealing with organizations if not societies and the entire planet that’s hyper-diverse,
interconnected. We don’t have a choice but to evolve the way we lead and think about leadership and so I think I would be doing a disservice if I didn’t continue to talk about the creative leader, continue to talk about how we understand change leadership, how the way we look at it might be different from the way that its traditionally been looked at which was sort of, I don’t know, it was a lot fuzzier to me versus actually giving students skills that they can use to help to manage and initiate change processes in their organizations or groups in the world.

For a time, the term facilitative leader was explored. However, it became confusing since, in these processes, the facilitator is not involved with content, just process. That is a difficult role for a leader. The term creative leader is now being defined by faculty members, though unpublished as yet. Puccio, et al. (2007) began the process by defining leadership as “the process of positively influencing people, contexts, and outcomes through a deliberate creative approach that is applied to open-ended, novel and ambiguous problems – both opportunities and predicaments.” Zacko-Smith (2009) developed the definition further to differentiate it from change leadership describing creative leadership as a relational process of bringing ideas into being to accomplish positive change. The specification of positive change is what differentiates it from change leadership. In a follow-up series of e-mails, Zacko-Smith expanded his definition saying that creative leadership is viewed as a process because creativity requires emergence and incubation. It is relational because it involves knowledge of self and others and invites all to be involved in processes, activities and decisions. The skill set for creative leadership encourages intuition and higher order decision making. Creative Leadership removes hierarchical structures, stresses influence and has purpose. It
acknowledges the created nature of reality, the importance of context, the need for flexibility and the use of diversity for multiple perspectives. Clearly, the department continues to develop the field of creativity, the structure of the program, and the applicability of the courses to global challenges using the skills and processes they teach to students.

_Structuring Classes_

At one point in this research it began to appear that creativity and Creative Problem Solving were being equated. In a follow up discussion with Rupert, he stated an understanding of that concern and pointed out that creativity is often studied from the psychological point of view. This program focuses on the application of creativity to life and CPS is the method of application. Eight of the course descriptions and objectives include CPS; the three that do not are CRS 560 Foundations of Creative Learning and Thinking, CRS 625 Current Issues in Creativity Studies, and CRS 795 Master's Thesis.

Each of the required courses involves mixed methods of teaching: lecture, demonstration, discussions, group work and a lot of interactive class presentations and projects. Students have ample opportunity to practice the skills they are learning around creativity, creative thinking and the facilitation of others in problem solving sessions. Feedback on style, performance, interactions, use of tools and efficacy of the use of CPS or the Thinking Skills Model is plentiful. Personal measures of ForeSight (problem solving style), Kirton Adaptor-Innovator (style of creativity, Myers-Briggs Type Indicator (personal style preferences) and Leadership Practices Inventory (self rated leadership skills) are used to help students assess their own development and learn to work within their own styles to be authentic. Research is critiqued, evaluated, analyzed
and used to increase the learning. The historical development of the creative processes helps students understand the reasoning behind the models and why changes have been made over the years.

Vidal: I think that the battery of measures that are administered to our students that information is helpful for bringing about some of the personal transformation because you’re now making students, or helping them, become self aware of those blind spots and I think information like that serves as data to help bring about change and certainly when you get feedback that can be transformed into skills that people can actually execute out in their personal and professional lives.

CRS 670: Introduce new skills or develop in-depth aspects of CPS facilitation: Giving and receiving affirmative feedback; understanding history and development of CPS at ICSC; in-depth work on group dynamics; improving descriptive use of CPS framework and tools; understanding how cooperative, competitive and individualistic goal structures impact teaming; developing and applying project management skills; developing and applying goal setting skills.

The courses are organized in strands to assist students in focusing on one aspect of the program at a time. The Foundations of Creativity strand surveys various approaches to assessing and defining creativity, as well as a variety of models and theories associated with understanding the nature of creative behavior. The Creative Problem Solving and Facilitation strand emphasizes ways to deliberately foster creative potential by helping the student to learn, apply, and teach specific creative problem-solving tools. The third strand, Research, Development and Dissemination, includes involvement with the department’s program of research, development, and dissemination.
Students pursue a master’s project or thesis that makes a contribution to the emerging discipline of creativity studies.

Leadership has not always been so specifically a part of the program. According to Rupert and Giuseppe:

Rupert: (Creative Studies) had really begun to move clearly into if you’re going to introduce creativity you’re going to be introducing change and that means somebody has to be the accountable person and show others how change is not terribly scary and how to lead it. Okay, so that was - 1998 or 1999 - was the year in which we changed the curriculum at the graduate level to say that real change leadership is a function of the Creative Studies 680 course where two people are going to, or two parties, are going to experience what it’s like to be a change leader. One is the trainer facilitator, a student, and the other is the client or clients.

Giuseppe: So, we have in our curriculum, as you know, with the advent of our certificate program we specifically titled our certificate program a certificate program in creativity, Creative Problem Solving and Change Leadership. To reinforce that connection, our 635 class which was seminar in creativity before is now a seminar in creativity and change leadership. So, we are bringing more and more in some of our other classes, like the 670 class in teaching and training creativity. We’re bringing into the class content and assignments material very much targeted towards being a creative leader.
Other faculty members noted that, at that time, the graduate certificate in Creativity and Change Leadership became a one-year step for those who were not pursuing a Master’s degree and marked the halfway point for those who were pursuing it.

**Contributing to Students**

What do instructors feel is the value of the Creative Studies program? How do they feel it benefits students, Buffalo State College, and the world community? How is the value expressed in the courses? Here are some of the comments:

Vidal: Just to start at the fundamental level, let’s look at Osborne’s guidelines to divergent thinking, convergent thinking. So if you just practice those guidelines alone I think that could bring about skill sets to help bring about personal change and also interpersonal change at the fundamental basic levels.

Mildred: Our program is about helping people change to do new things, to be more effective, and to enrich their development of their creativity and their profession. So that’s really all about leadership.

Rupert: The key is to prepare them well enough that they can not only appreciate it and see value in what they’re doing but use it in ways that say “here is what I have learned” and that brings the notion of creative achievement into a new dimension. If they learn only what I know, we’re not making any progress here, that they then make it their own and do something with it and then reflect on that.

Jack: I see the value of creative problem solving and creative thinking in initiating and managing change, which I think is a lot of what leaders have to do particularly in our organizations and our world today. … We’re all leaders and this stuff is going to help you do a better job because we have the people coming
back to us saying “hey, my participation in this program has made me a better leader in my organization, it’s made me a better teacher, it’s made me a better administrator, it’s made me a better chairman of the board and here’s why.”

Ezmerelda: Maybe there isn’t a solution that’s known, so let’s look at how you deal with novel situations in order to create a change that you want that reacts to the change that’s happened. And if you don’t do it, they’re talking about all the criticism of the leadership and how they were reacting or not reacting.

Giuseppe: What we have to offer is so helpful to individuals in terms of their own coping skills, so useful to organizations in terms of creating healthy organizations that are innovative, so useful to schools that help school systems improve education as they’re engaging kids and their educational experience, preserving and promoting creative thinking - that’s just so necessary in our society to continue to develop our society, but I think we’re just scratching the absolute surface. There’s so much potential here and what drives me now is really leveraging that.

Dr. Mongo: Getting it means that you know this behavior, you can use this behavior. I mean like phrasing problems in a way that they can be solved; deferring judgment, evaluating ideas as possible, and then when you get into tough situations you have this little observer that kind of sits behind you and says “well now, are you doing this?”

Jazzlyn: I use service learning as a base for that (leadership) because I think that’s a really good experience for students to go out there and have to take on projects in teams where they all take leadership roles and have to go through challenges
together and work together. So part of it is around emotional intelligence and being able to work together and know how to handle complex challenges and work themselves through the process, through the Creative Problem Solving process.

CRS 614: Creation of an on-going development plan to enhance personal effectiveness.

CRS 580: Develop a personal strengths profile and formulate a plan of action to use these strengths personally and professionally.

Interestingly, although students review and rate every course and instructor, there are no published studies done on the value of the program. Three unpublished Master’s theses were examined, Burns (2005), Ly (2004) and Lunken (1990). Evidence from these studies indicates that graduates continue to use the skills, the Creative Problem Solving process, and the tools and techniques they learned in the program in their personal and professional lives long after graduation. Evidence from the faculty on program impact is anecdotal, but echoes these studies.

Giuseppe: A student … did an in-depth set of interviews with alumni, to kind of understand what’s the impact of this graduate program and one of the themes that came out - and there was only a handful of four or five clear themes emerged and this was even before we touted the connection to leadership so overtly - but one of her main findings was that the alumni she interviewed said that the graduate program and their educational experience had a very positive impact on their leadership skills.
Rupert: I had one student who called me up 10 years after the first and only class that he took from me and he said, “it took me awhile to track you down, but I have something important to announce to you today.” He said, “my accountant tells me today I’m a millionaire and it was because of you.” … I’ve had that quite recently from a fellow named D.J. out in Denver. Yeah, he says, I’ve really gotten good at the design. He says, I majored in design at Buff State and he said, people are wondering what it is that I’m doing in terms of this creativity stuff. He says, I use it every day, and they’re saying can you teach that to me. So I sent him some material, too.

Vidal: The Masters degree in creativity certainly helped because now I can apply creative problem solving and I can apply the tools and techniques for a situation that’s ill-defined. One of the things that I loved about learning all these tools and techniques is that it certainly gives you, at least gave me, the confidence to face any kind of scenario. Somebody who called me and says, “Vidal, can you do this for me”, I said, “I have no training in that” but I’ll figure it out, I would say yes, I’ll just dive in and I’ll figure it out and I’ll do it. I seem to always land on my feet and I could attribute that to these skills sets that have developed over time.

Connecting Creativity and Leadership

How do instructors view the connections between leadership and creativity?

Clearly from the definition given for creative leadership in the Instructing section, two have joined them together in new terminology. What are other thoughts?

Rupert: To be a good leader one must incorporate the creativity from a cognitive point of view, a behavioral point of view and an affective point of view; all those
have to be there. At the same time, being creative is not sufficient and I’m not sure that one could place one piece ahead of the other in terms of what actually happens in the world. I see them so intertwined I don’t know how to pull them apart.

Jazzlyn: I think everything that we teach has to do with leadership to some degree but it’s in a tacit way more so than in an explicit way. So while in our creative problem solving courses we don’t say we’re trying to build your leadership skills, it’s done in a tacit way.

Jack: So I think it’s been sort of a two step process really, making the formal linkage between creativity and leadership by introducing the notion of a change leader or a creative leader which then allows us to get into talking about creative thinking and creative problem solving concepts like the thinking skills model, like even at the more basic level just plain old divergent thinking and brain storming.

Ezmerelda: If you think about what you need in a leader, you need someone who can think of things in different ways, who can solve problems in ways that didn’t exist before. If you gave them what creativity is and you connected it to being a leader, they would say, well of course, that’s what we need. But if you were to say, does a leader need to be creative, well I don’t know, kind of stuck in sort of a management function of leadership. But if you do the descriptors with them they would say of course.

CRS 559: Students learn advanced strategies for leading small groups through the Creative Problem Solving (CPS) process. It emphasizes mastery of facilitation techniques and skills. Students receive expert feedback on their facilitation skills
as they apply creative strategies to real issues. This applied course also examines conceptual relationships between facilitation and change leadership. The course aims to develop basic change leadership skills.

CRS 614: This course focuses on developing students’ skills in applying and facilitating advanced creative problem solving tools that involve diagnostic, visionary, strategic, ideational, evaluative, contextual, and tactical thinking. The cognitive tools are drawn from various fields, such as quality improvement and strategic management, and include decision-making, and various problem-solving models.

CRS 625: Identify Current Issues in the Field: disciplinary issues, research issues, enhancing creativity, organizational creativity, creativity across cultures, and other topical points as pertinent.

CRS 635: Becoming a Change Leader: Choices and Challenges: Identify characteristics of an effective change leader, evaluate the pluses and minuses of change leadership, and examine real contexts and situations in which creativity and change leadership operate.

As Rupert said, he couldn’t see separating the two terms, although three others were concerned about how much leadership to add. So basically, with the possible need of elaborating definitions, the connections are not new, not unusual, and seem logical.

Comparing Creative Studies to Other Programs

During the interviews comments arose about the Creative Studies program in comparison to other leadership training. A question regarding where the instructor would look to find a leader to hire was meant to stimulate a comparison discussion. Generally,
however, the comparison led to MBA programs as the place businesses look for leaders, and many of the comments moved in that direction.

Jack: I mean to be honest with you, I feel that a graduate of our MS program in creative studies has a lot more, a lot richer, perspective on leadership just naturally than many MBA graduates ever will.

Vidal: You start to see a lot of criticism now of the MBA’s because they don’t have the heuristics to be able to operate when facing ambiguity. It’s all very much algorithmic and they execute that precisely and it’s so calibrated and so fine tuned, but as you know, things evolve so fast, everything is a moving target. And so when you’re faced with a merger or you have a game changing entity or force that’s presented by the competition or whatever dynamic, what does one do when faced with that, and I think that our students are in a better position to handle those kinds of changes.

Dr. Mongo: I think they (MBA programs) produce good quants in many cases. I don’t think their skill training is that good. … Hmmmm, I’d look at the extra-curricular stuff. I’d look at the folks that were like - that’s where I’d go to hire leaders, I’d look at who was the head of the student organizations on campus.

Ezmerelda: Well I think what’s interesting is some of the things I’ve read about MBA programs is they’re saying MBA programs are not preparing people for leadership, that they’re so focused on management and sort of behind the times in terms of looking at leadership and the skills. How it is you look for the ability to both react to change, but also to create change, is not something that is being
taught in MBA programs. Now, maybe some of them have caught up, but that seems to be some of what I was hearing.

Mildred: I’m sure a lot of them (MBA programs) are lacking just in the fact that if it’s really about management and they really haven’t talked about leadership, if they haven’t talked about, your own creative growth and development, then in my opinion they’re lacking some things. If they don’t have some components of what we have, that I think are becoming more important in a complex world when you look at leaders then you do what you do, but that’s all you do.

Giuseppe: Well the obvious thing is graduates of an MBA program. I think that given some of the complaints that I’ve seen, not complaints, thoughtful criticisms, of MBA programs, especially given a focus on analysis, and analytical thinking, and financial decision making, and so forth that the thought process is a little too linear and doesn’t match well with the kinds of problems that are multi-disciplinary, ambiguous, complex, evolving, that I’m not sure of that preparation ... and I’m picking on MBA programs because that’s where in corporations you look.

Jazzlyn: (If hiring a leader) I would want to see if they have an open mind about things, so I might ask them some questions to see how they are in terms of openness. I would want to see how they would handle complex challenges. I would see if they could delay their judgment around things. So I might put them into a situation to test out how they are creative and I think style definitely comes into play.
This emphasis on MBA programs prompted a look at the perceived differences between manager and leader:

Jack: In the big picture for me I see management in a general sense being more about the day-to-day operations of an organization or group and so, they might be concerned with things like the details of the budget. A leader, on the other hand - not that they’re not concerned about that kind of thing - but they are also probably happy to delegate that responsibility to somebody else. Maybe more concerned with things like making sure the organization is on track with its mission and goals. Redefining what the mission and goals or vision of the organization are, looking at overall employee satisfaction and development, looking at using a transcendent lens, looking at how their organization and the people in it including themselves are impacting the bigger picture, impacting the community, impacting the world.

Vidal: The disconnect is when one defines leadership without the creativity aspect linked to it, when they see leadership and they muddle it with more of an administrative kinds of skill sets. We’re going to bring you on board to lead this organization, but you take on more of the administrative to just constantly look at the quantitative to just see the health of the organization. “We’re in the black, we’re great, and let’s maintain that.” I think you see leadership in management and you see management is required in leadership as well but I think the focus with regard to leadership is bringing the creativity aspects of things like scanning or looking for opportunities and trying to bring in new thinking.
Ezmerelda: We’ve been talking about this since we started, talking about this whole idea of creative leadership versus creative management and that it’s not that managers don’t make change, it’s that often the kind of change that they make is to get back to the status quo and so something has happened to disrupt, something isn’t going the way they want and so they have to do something different, they have to come up with a creative change approach to get it back to where it was because that’s their job, make sure things are stable.

Mildred: A manager who is someone who can sit down, roll up their sleeves, figure out where all the widgets go, and where the papers go, and fill out the papers, and get everything in, and make sure that all the rules are followed. It doesn’t mean it’ll help them grow. They can do status quo, they can make sure things are efficient, they can do whatever, doesn’t mean they know how to interact and inspire others if you look at LPI (Kouzes and Posner’s Leadership Practices Inventory) kind of language. They don’t model the way; they don’t look at articulating a shared vision. They don’t necessarily, and I’m sure somebody could be a good manager and a leader, they’re not necessarily; they’re not the same thing. Management is about managing and getting it done. Leadership is about getting it forward and making sure that where you are now is not where you are tomorrow.

Giuseppe: That’s what we talk about in the field of creativity and Zaleznik’s next piece in the 90s where he wrote an addendum to his classic paper on the difference between managers and leaders said that leaders have much in common with the creative person than what managers are about and he argued that
business schools should do more in the areas of developing curiosity and thought experiments, helping people. My interpretation of thought experiments is imagination; to use one’s imagination to say what if we did this, those thought experiments.

So while the instructors did not especially like MBA programs for development of leaders, they acknowledged the need for both managers and leaders and that MBA programs do develop managers. No other specific leadership programs were discussed, but the expressed need for creativity, creative thinking, a multi-disciplinary approach, ability to deal with complex challenges, interpersonal skills, change creation, shared vision-mission-goals, employee development, morale, modeling the way, moving the organization forward, curiosity, imagination, tolerating ambiguity, and a concern with the organizational impact on the employees, the community and the world gave clues to what the assessments might be.

_Evaluating the Creative Studies Program_

Looking at the program overall, instructors were asked to assess where changes might be made. Where are there disconnects? Where are flaws in the system? Is there any manipulation or political issue that needs addressing?

Vidal: … when you asked me for my definition of leadership. I think this is a big disconnect because its heavily skewed towards the interpersonal, it’s about influencing others to move people from point A to point B, persuasion, and I think that is a very important part, but what I see the disconnect around, I don’t see a balance is in the interpersonal. What prohibits, what precludes leaders from embracing new kinds of processes, new technologies or bringing about new
change? What is it about internally that’s blocking them? What fear is blocking them from actually looking into scanning, and looking for new opportunities, and embracing change? ... What’s interesting is that we’re not, in my opinion, we’re not explicit about it (teaching interpersonal skills); it’s more implicit. You’ll get people that say that, when they’ve gone through this program, they had a transformational experience; it was a transformational effect that it had on them and that’s wonderful that it had that transformational effect. When it comes to my opinion, the moment of truth, that is when you go out to the field and were faced with resistance, what are you going to do? Are you going to fold, are you going to cave into politics or are you going to take that courageous leap and find a way of trying to help persuade or manage change. And so yes, people come out of here feeling that they’ve been transformed, but again, you want to see that it sticks and I’m not sure that we’re doing enough to make sure that that sticks. When people leave here and go back into their organizations and are faced with this political wall and monsters and all these different stakeholders, what does one do? And I’m not sure if we’re getting enough feedback to suggest that people have taken on this quixotic kind of role that’s needed to bring about change.

Mildred: I think we can do better, it’s not, yeah, balance is an interesting word. I think we can do better at hitting key concepts in different areas that are strongly related to creativity. So do we do it well? There’s a lot of improvement. Would I like to see more of it; the content of leadership put in, not necessarily.

Jazzlyn: I want them to be able to be emotionally intelligent, which is coming out to be a really big piece, and with that an emotional time, so let me break that
down a bit. To be sensitive to the environment, to be sensitive to other people, to understand and listen to themselves, to feel confident about their ideas and to be willing to take risks in order to put those ideas into action. … I’ve had graduate students in the masters project who “Oh, my gosh, I just can’t, I don’t think I can do it.” It’s like okay, now you’ve learned all these skills, now challenge yourself. And I think challenging yourself is a big part of leadership, and if you’re not willing to challenge yourself you’re not going to be a leader.

Rupert: I found that I was philosophical, but not practical and tactical in the first two courses that I taught. And that what the younger folks needed was not just a model but the tactical - what do I do in a situation - and that for me was a shortcoming. … There are certain assumptions that I make, one is if they’re in college, they got there because they’re able. Another assumption that I make is that they are fully functioning adults and of course that assumption never holds, but that’s how I start, and that many of them are capable of more than I ask of them and they ask of themselves. Now the weakness in my system is that I present this information like they are fully functioning adults and of course they’re not. I proceed on the assumption that people are intrinsically motivated and they’re not. … The question becomes do I fill in the holes or do I become stronger where I’m already strong and let someone else fill in the hole, and that is a decision only the individual can make and that’s over time.

Jack: We probably should be doing a more extensive job in positioning and providing information about leadership in other areas of the program. Maybe making an explicit connection between facilitation skills for example, instead of
letting it be implicit. … not to say that the students don’t seem to have thought about it before or haven’t been exposed at all to the relationship between creativity and leadership, but I think the connection is strong enough that it deserves more than a semester’s worth of examination. The examination should be started maybe sometime earlier in the program so that by the time they get to the end of the program there’s less foundational leadership work to do and less foundational work as far as the relationship between the two concepts goes so we can spend more time exploring what that means versus making the case for it.

Other comments were about the need for embracing technology, helping people move their new skills back to the workplace, being able to influence policy, and the fact that since the belief is that this program is profound and transformative, it is not more readily available. Concerns seemed to be more about the students than the department, but that can be attributed to regular faculty meetings and retreats where issues are brought up, analyzed and the problem solving skills are utilized to come to a positive outcome for those concerned. The coverage emphasis on various topics in the program, such as interpersonal and emotional intelligence skills, more facilitation experiences, and instructor’s evaluations of their own growth needs are ongoing topics of discussion and problem solving.

Creating Environment

An area that was not new, environment, became particularly clear as a first step in developing creativity and so is added here. It is important in organizations, in classrooms, in homes, and, perhaps most importantly, in the mindset of whomever is assuming the role of leadership in any given situation. While only one participant
specifically identified the work of Ekvall (1996), there were many references and connections to the ten dimensions of a creative environment he identified. Following are descriptions of the ten dimensions and some of the quotations that connected with his work.

**Challenge.** How emotionally involved or committed are people to go beyond personal boundaries for the work?

Jazzlyn: Now you’ve learned all these skills now challenge yourself. I think challenging yourself is a big part of leadership, and if you’re not willing to challenge yourself you’re not going to be a leader.

Vidal: the individuals that get excited that come out of this program, but when they go back to their setting aren’t willing to take on the politics, are unwilling to make waves or to challenge or to try to turn around that tanker of indifference that might exist within a school whether its elementary, high school, or university setting and that’s where I think we should put more energy. Help people build the skill sets to persuade stakeholders to not cave in when pushed back because that’s when you really are required; that’s when the creative leadership skills are so needed; that’s when you’re totally required to, in that moment of truth, exercise those skills to turn things around.

Giuseppe: The organization went through a crisis, it was exciting, challenging, anxiety provoking, stimulating and we were able to survive.

CRS 610: Facilitator Strategies for Dealing with Difficult People

A. Defining the various ways in which group members challenge process

B. Strategies for dealing with particular types of challenges when leading groups
C. The use of escalating intervention methods

*Freedom.* Are people empowered to act in ways not constrained by narrow job descriptions or management oversight?

Rupert: That kind of freedom, that emotional challenge that goes with that kind of experience, that self assessment that has no penalty, I found created an environment that said yeah, I’m willing to engage that.

Vidal: It was a lot of freedom to try new things but the majority of time was consumed, at least when I was doing the training and development, in just doing courses after courses after courses or the organization development functions that I did. It only went to a certain level. I wanted to take it further in terms of the depth of whether it was helping in the merger or an acquisition. There’s only so much they would allow me to do and I wanted to do more with the operations.

Vidal: If you’re going to block me, I’ll just use my academic freedom to do what I can within my classrooms, if you don’t want to try it out in your classrooms.

*Idea time.* Do people have time to think things through and develop ideas before being required to act?

Rupert: You’re not effective to me unless you know what’s going on in the community. Item number two, everybody will do something that is self empowering to them. I will pay for either the books for a college or some sort of course, or I will pay the tuition, or I will give you release time.

Jack: Not that we always have the luxury to put as much time into figuring all that out as we might otherwise be optimal if time were never a consideration.
Giuseppe: So the only time you’re open to ideas is when you’re formally leading a group through creative problem solving? Uh uh, can’t be, you have to engage in those set of practices all the time because you don’t know when that next breakthrough idea is around the corner.

*Idea support.* When people have the freedom to develop ideas are there some resources available to support continued development?

Rupert: I expect everybody to volunteer for something because this is a small community and we need people to give their own time, and so as you do this, I will give you two hours release time every week, and then anything you want to do beyond that is up to you time-wise.

Dr. Mongo: It’s like my role here, I think, is to kind of be the old guy with the historical perspective. It’s also to be a support for my other colleagues.

Giuseppe: what I noticed was that as these theoreticians and leadership experts were talking about leadership that they were invoking constructs, concepts in creativity in terms of talking about the leader in the 21st Century having to be flexible, needing to facilitate and draw ideas out of people, to respect and support ideas, to work with diversity, to be able to deal with ambiguity.

*Trust and openness.* Do people feel safe in freely expressing their opinions and offering different points of view?

Jazzlyn: I would want to see if they have an open mind about things, so I might ask them some questions to see how they are in terms of openness.

Dr. Mongo: Have you internalized who is really pushing on the affective side, have you internalized that whole openness, not all the time, but an awareness
when you’re not and I think “getting that” is not being that way all the time, but knowing when you’re not and knowing what’s appropriate in that situation when you’re not.

Giuseppe: One of my favorite models is this four levels of leadership development where at the highest level is unconscious competence where the creative thinking is so second nature as a leader that hallway conversations, the tone, psychological tone that you set in that unit or that organization, ignites, sparks, facilitates openness and creative thinking all the time, and I think that’s extremely healthy for organizations.

Playfulness and humor. Are a relaxed atmosphere and people having fun recognized as part of a productive workplace?

Vidal: If you’re looking at playfulness, what blocks you from fully engaging in that? I mean how are you feeling when I bring out Play dough or Slinkies? Why do you feel uncomfortable being playful, what is it? Why aren’t you willing to explore, go further down? And so I don’t think there’s enough work in that area.

Vidal: I came across this book that was focused on play. One thing I found fascinating about this book, is that this person was looking at a way of using play as a way of screening for creative leaders and creative talent.

Jazzlyn: It’s mostly about the psychological state and creating an environment that people can be creative. Ekvall, I think, is beautiful in lining that all up, the playfulness and dynamics

Conflict. A climate where people engage in interpersonal conflict, including attacks on people, was identified by Ekvall as having a negative effect on creativity.
Jazzlyn: I think a little conflict, although I can’t stand conflict, is sometimes healthy even when emotions are involved because I think it just shows that people care.

CRS 610: Facilitator Strategies for Dealing with Difficult People

A. Defining the various ways in which group members challenge process

B. Strategies for dealing with particular challenges when leading groups

C. The use of escalating intervention methods

*Debate.* Discussions revolving around the issues, rather than people, where differing points of view are openly discussed encourages creativity.

Jack: I think what creates problems for us, particularly as leaders, is when we get people around us who all think exactly the way we do and it starts to deaden our relationships. It starts to deaden our organizations; it impacts our bottom line because we can’t really innovate if everybody is just saying yes, yes, yes, yes, yes, or everybody thinks exactly the way we do.

Giuseppe: It’s also very much about being skillful in working with others to create an environment based on a facilitative approach that makes it safe to engage in creative thinking. And then I think it becomes much easier to go in new directions and to be flexible and to adapt.

Rupert: And then a key item is listening to understand. One of the problems that inherits is, as a person is listening to others particularly in a group setting where there are ideas being exchanged fairly rapidly, is that as I’m listening to understand, I’m processing the information, and I’m being affirmative.
Vidal: I exercise leadership … by being humble when people critique my courses. What’s the nugget I can extract from what they share? Sure it’s painful, but let’s put my emotions in abeyance and see what is there. What’s the nugget that I can extract from their feedback?

Dr. Mongo: When I’m talking to students and they would have a disagreement or something, well I’m going to hold back. I’m going to listen to what you say before I respond because we might have something there.

CRS 670: B. Managing content and process interaction

1. Effectively listening to participants
2. Responding to content and process affirmatively
3. Tolerating ambiguity and fostering it where appropriate
4. Asking open-ended questions
5. Monitoring verbal and non-verbal interactions
6. Delivering accurate content

Taking risks. Offering ideas and trying out experiments requires the ability and motivation to take risks even when failure is a possibility.

Rupert: The notion of saying, it’s okay to make mistakes; the notion of calculated risks is worth the doing.

Jazzlyn: They have to be able to navigate complexity. They have to be able to defer their judgment. They have to be willing to take risks. … To be sensitive to the environment, to be sensitive to other people, to understand, to listen to themselves, to feel confident about their ideas and to be willing to take risks in order to put those ideas into action … and that’s what you have to do as a leader.
Jack: I would also want people who were unafraid of taking risks. I don’t know how easy or difficult that is to assess, or even how at this point I would go about assessing that, but I would look for people who were tolerant of ambiguity, who weren’t afraid to try new things, to think of things in different ways.

Giuseppe: Sixty some percent of the 2500 executives that were interviewed said they had a risk-averse culture. I sort of chuckled because I thought well, who has influence on that, well the 2500 executives who responded to the question.

*Dynamism and liveliness.* Is there a sense of energy and enthusiasm seen in leaders and others when people enter the workplace?

Jack: I’m learning more all the time which keeps my life, and my job, exciting.

Mildred: But the concept of leadership, the connections, the places where there’s overlap, things that are occurring that are exciting and central to creativity, it would be missing something if we didn’t have that.

Giuseppe: So, working - what’s the theme there - it’s taking practices, tools from the field of creativity and sharing that information with others, one in the classroom environment, the other one in the training environment and I found it exciting and rewarding, and that really sealed the deal, then I knew I wanted to commit myself to being a professional in the field of creativity.

Jazzlyn: if you find the passion and the motivation and energy around something then you move forward and you, I truly believe you follow your passion and then you emerge as a leader in whatever you plan on doing.

Giuseppe: I’m very fortunate to have the job that I have because I love what I do. I still feel a great deal of energy for helping other people recognize and develop
their creativity and to develop essential life skills because I really see creativity as an essential life skill.

*Creative Leadership*

During the study it was learned that three of the faculty members were working on a new definition. Combining creativity and leadership explicitly (Figure 4.1) resulted in the definition of a new leadership style, Creative Leadership (Zacko-Smith, 2009). As with Transactional, Transformational, or Servant Leadership, the description of this style needed to be sufficiently different from others so that it could stand alone, though it has connections to some of these other styles.

Creative Leadership is viewed as a process because creativity requires emergence and incubation. It is relational because it involves knowledge of self and others and invites all to be involved in processes, activities and decisions. The skill set for creative leadership encourages intuition and higher order decision making. Creative leadership removes hierarchical structures, stresses influence, and has purpose. It acknowledges the created nature of reality, the importance of context, the need for flexibility and the use of diversity for multiple perspectives (Zacko-Smith, 2009).

This definition corresponds well with the concepts of both creativity and leadership. It has emerged as part of an ongoing study of the connections between the two subjects. Defining Creative Leadership in this way sets a conceptual framework for teaching creativity and leadership together at Buffalo State.
Leadership + Creativity = Creative Leadership

Leadership is “the process of positively influencing people, contexts, and outcomes through a deliberate creative approach that is applied to open-ended, novel and ambiguous problems – both opportunities and predicaments.”

Creativity is “the ability to make useful, novel associations” (Gryskiewicz, et al., 1985, p. 102).

“Creative Leadership is the relational process of bringing ideas into being to accomplish positive change.”

Zacko-Smith (2009)

Puccio, et al. (2007), p. xvi

Figure 4.1. Descriptive model: Development of creative leadership definition

The Research Question

The research question was, “What synergies, if any, are involved in teaching creativity and leadership together?” The question evolved to include the efficacies and strategies as well as the synergies for teaching the two together. The first effort was to clarify the relationships between creativity and leadership. They are not the same thing, but are interconnected on many levels to the point that creativity is an essential and integral skill for success in leadership. Both offer skill sets and tool sets for leaders, and depending on the training and the individual leader, both contribute to the mindset needed for excellent leadership. Creativity may be the key to that mindset, for those involved in the Creative Studies program at Buffalo State as the interpersonal skills, tolerance for error and ambiguity, deferment of judgment, creation of shared vision, ability to develop a creative environment, role flexibility, problem solving skills, development of self and others, and ability to give and receive feedback are practiced.
Synergies

Synergy is defined as “when the group outcome is greater than the sum of the individual contributions” (Northouse, 2009, p. 106). There are several synergies involved in this study. Strong leaders have a shared vision with a team of workers and, using a creative problem solving approach, will be able to accomplish above the expectations helping organizations grow (Schmidt, 2010; Sheldon & Elliott, 1999). Excitement and energy generated can be maintained with continuous improvement as an outcome. Teachers will be working with, rather than at, students, tolerating error and ambiguity, and helping them identify and address their challenges and contexts positively (Savery & Duffy, 2001; Jones, 2009). Greater interpersonal skills and emotional intelligence will reduce conflicts and promote an attitude of confidence in utilization of problem solving skills to overcome differences.

Absenteeism is not an issue when people are treated as adults and motivated by full engagement and energy through an interactive process (Lipscomb & Snelling, 2010). Skills developed in the use of creativity help develop the leadership skills of all participants (Burns, 2005; Ly, 2004; Lunken, 1990). Tools and techniques learned through using creativity and group problem solving carry over to personal life promoting health and happiness (Munt & Hargreaves, 2009; Yilmaz & Izgar, 2009).

The synergies are built by creating an environment in which people are free to share ideas, make mistakes, and be part of the action of problem solving. An interactive, momentum-building creative problem solving process works best for building synergy. By involving everyone in the problem solving process, it takes longer, at times, to come to an agreeable solution, but a shorter time to gain acceptance and implement the solution.
chosen. A feeling of full participation in, and ownership of, the solution develops in those involved resulting in high energy and motivation to make the solution work. It allows leadership to take a functional rather than a positional role. This kind of process inspires people to do more. Since continuous improvement is a goal of most organizations, this is a quality result. It allows the organization to be the benchmark for comparison, rather than follow other organizations into the future.

**Efficacies**

Creativity is a large and integral part of leadership. Teaching leadership often seems to involve knowing when, where and why something should be done; creativity offers who, what and how to complete the partnership of success. Having a repeatable, cognitive, rational, and semantic problem solving process adaptable to any situation gives the leader the confidence to proceed. Teaching a creative problem solving process along with the tools and skills needed to conduct it at the same time as leaders are learning how to identify the issues in the workplace and the needs for the future makes the lessons extremely practical and doable. Doing this at the time of learning about leadership, allowing for practice and development, increases the likelihood that leaders can be immediately effective on the job.

**Strategies**

Probably the most important strategy for including creativity in the educational system, the workplace, or the home is the development of a creative environment. The climate must include tolerance for error and ambiguity, deferment of judgment, role flexibility, time and support for idea development, resources for new projects, playfulness and humor, and ability to give and receive feedback among others discussed. Even the
best leader can fail when decision makers at the top are not willing to risk on new directions or coworkers undermine the confidence of the team. This cannot be done later. It needs to be developed before teams begin to operate. There needs to be an understanding of creativity and its attending ambiguity and potentials. Those “in charge” must realize and respect the impact they have on change with negative emotional or other comments. The environment must be supported and nurtured to encourage new and useful change.

Program or goal content is another strategy component. The college or university program should be laced with variety in topics, accommodations for learning styles, time for practice, real-world examples of challenges from students, and dedicated faculty who are unconsciously competent in creativity and leadership skills. Work content should be challenging, have flexible roles so that anyone can practice leadership skills, and have clarity in goals and expectations. Creativity at home is similar to both as everyone in the family can participate in family decisions, enjoy role flexibility, and have clear goals to meet as a family.

Education or training is another strategy. While the creative problem solving processes studied are based on the way people generally think, just documented for repeatability, learning to work with the skills and tools involved takes time and study. The hardest part of the process is learning it. After using it for awhile it becomes internalized as a natural habit.

Model

A model (Figure 4.2) results from combining the synergies, efficacies and strategies resulting from teaching creativity and leadership together. Some elements of
the model are naturally present in every situation. This model suggests that there is more synergy in combining them, particularly for training leaders.

**Figure 4.2.** Synergies from teaching creativity and leadership together

**Summary of Results**

During this chapter, the data from the eight instructor interviews and eleven course descriptions were introduced by sorting the coding into eleven categories based on the original problem statement, “What synergies are involved in teaching creativity and leadership together?” The eleven categories broke that topic down into Leading and Creating to identify the basic concepts of leadership and creativity, Creative Problem Solving and the Thinking Skills Model to delineate the differences between the two problem solving models currently in use, Instructing in Creative Studies to highlight the department faculty and their style of operation, Structuring Classes to identify the courses and their foci, Contributing to the Students to show the value of the Creative Studies Master’s program to students, Connecting Leadership and Creativity to emphasize the strong associations between the two topics, Comparing Creative Studies to Other
Programs to identify the unique contribution of the Creative Studies program, Evaluating the Creative Studies program to look at ways it might be improved, and Creating Environment to nurture creativity and leadership working together.

In summary, the views of the instructors were consistent with the course descriptions. In areas of disagreement, such as the degree of leadership material to add to the creativity programs, they were tolerant of differences and were using their skills to address them. Comparing the program to MBA programs brought agreement that Creative Studies is about creative leadership, MBA’s are about management, and that both functions are useful. There was also agreement that retirement from the job was not being considered, but that there were always options if one had to leave the program. While the definitions of creativity were different in some respects, they were consistent with research definitions taught in the programs. More intriguing was the difference in definitions of leadership. Possibly, that is the reason for the concern around how much leadership material is to be included. It seems likely that a clear and shared definition, or definitions, of leadership, perhaps the new definition of creative leadership being developed, and the recognition that the term is already included in most of the course descriptions would help advance the Creative Studies program. It might also be useful to determine if more leadership pedagogy should be added or if simply making the connections between leadership and creativity more explicit would suffice. This could be a creative exercise and painless since everyone agreed that leadership is inextricably connected to creativity.

In Chapter 4, the data, codes, and groups were the basis for a grounded theory of the synergies, efficacies and strategies of teaching creativity and leadership together.
Chapter 5 presents a summary of the study and findings. Implications of this study and suggestions for future study complete the work.
Chapter 5: Conclusions and Summaries

In this final chapter of the study of teaching creativity and leadership together in a Master’s degree program, a summary of the study retraces the previous chapters. The findings, that is, the data, codes, and groups are the basis for a grounded theory of the synergies, efficacies and strategies for teaching creativity and leadership together. Conclusions include a model of how the findings work together effectively. Implications from this study and suggestions for future research complete the work. A final summary elucidates the value of teaching creativity and leadership together.

Summary of the Process

The research problem acknowledges that leadership skills are explicitly taught in some colleges and universities through human resource or organizational development programs, and domain-specific leadership programs such as nursing and educational leadership. Creative thinking skills are explicitly taught in several colleges and universities. It is rare to find a graduate program that specifically combines leadership and creativity skills (Yudess, 2010). Thus, we know very little about how creativity and leadership should be combined, both pedagogically and substantively. The research question was, “What synergies, if any, are involved in teaching creativity and leadership together?”

To explore this question, interviews were conducted with eight faculty members from the Master’s Degree in Creative Studies program at Buffalo State College, one of the few instances where creativity is credentialed (Yudess, 2010). The instructors range
in age from mid-thirties to over 60. They have been teaching in this program from two to more than twenty-five years. Five are male, three are female. Participation was voluntary and no one refused. Questions repeated to each participant were:

- How, and with what background, did you come to this program?
- How do you feel about teaching creativity and leadership together?
- What do you think is the value of this program?
- If you were hiring a leader, where would you look?
- If you couldn’t teach in this program, what would you do?

Follow up questions were based on participant’s answers to the questions above in keeping with grounded theory methods (Charmaz, 2006) allowing the data to emerge rather than directing it. No codes were determined prior to the analysis of the first interview. The interviews were coded line by line with new codes developing in the analysis of each interview, in searching the data for examples of the new codes found, and in subsequent re-coding for additional insights.

can be taught, can be learned, is effective and is retained over a long period. With these connections, it seems logical to teach them together.

Findings

The focus in a grounded theory study is qualitative rather than quantitative; therefore there are no statistical data. After the initial line-by-line coding, focused coding to sort relationships between the codes and synthesize the large amount of data collected was performed (Charmaz, 2006). The data in this study was synthesized into ten major categories of data, sometimes called families. They are labeled as gerunds to facilitate making relationships between them (Charmaz, 2006). Those ten topics and the summarized views of the faculty on the topics, follow:

Creating. This includes faculty comments about the general field of creativity. Unlike many organizations, and many other people, the instructors do not view creativity as being about the arts, but see it as thinking about anything in ways to produce positive results. Generally, the faculty agreed on the simple definition of creativity being the production of novelty that is useful (Gryskiewicz, Holt, Faber & Sensabaugh, 1985). They added others (Ackoff & Vergara, 1981; Noller, 1970’s; Rhodes, 1961) and acknowledged that the definition of creativity is constructivist, even allowing students to develop their own definitions. Several course descriptions (CRS 559, CRS 560, CRS 580 and CRS 670) are organized around Rhodes (1961), a definition which offers a systems approach showing creativity as a function of the creative person, the creative process, the creative environment (press) and the creative product, and each of these is examined thoroughly. Creative problem solving, the general term, with small case letters, referring to any process leading to a solution with new and useful results is connected to this
Leading. The category references leadership as it is practiced, understood, studied, or observed by the participants. Definitions of leadership were less agreed upon; though “influence relationship” was used several times. Most were less interested in definition and style of leadership than in attributes, skills, roles and attitudes of leaders. Interpersonal skills, emotional intelligence, flexibility, ability to navigate complexity, passion, motivation, energy and acting authentically were mentioned frequently. All agreed that leadership is not a positional role. Anyone can act as a leader in any given situation as needed.

Creative Problem Solving (CPS.) These are direct instructor responses referring to the Creative Problem Solving process which is the basis for all the courses in this program. Great reverence was exhibited for the rational, cognitive, semantic and repeatable CPS process first developed by Osborn and Parnes (Parnes, 1992). Each instructor learned the CPS process first in some format, and now teaches it. It is not creativity in itself, but it is the department method of application of creativity skills to complex, ill-defined problems of a personal or professional nature. They have not found it “broken” so are reluctant to make changes. As this is a program that started at this location over forty years ago, it is not surprising that this loyalty exists.

Thinking skills. Most recently a new problem solving model, Creative Problem Solving: The Thinking Skills Model (TSM) (Puccio, Murdock & Mance, 2007) was adopted and is being integrated into the program. While it is based on the Creative Problem Solving process described above, there are differences significant enough to
warrant a category. This process introduces cognitive and affective skills that are useful in each step of a creative problem solving process and reorganizes the steps of CPS to be more definitive about its non-linear nature and the way people think. This model makes the connections between creativity and leadership more profound and intriguing. The language used to identify the cognitive thinking skills is business oriented, such as strategic thinking and tactical thinking, which assists the connections. Affective thinking skills reflect the attitudes, emotions and mindsets that help make creative problem solving occur. While the faculty was concerned about changing to TSM in the beginning; they have begun connecting themselves to this new model. In the summer of 2010, this model was adopted for teaching all classes. It is still CPS, just in a new iteration, like other iterations discussed in Chapter 2.

Instructing in Creative Studies. The backgrounds, experiences, visions and interests of the faculty are in this category. Because this is not a one-subject program, but a system of thinking about any subject, the faculty backgrounds vary from teaching in K-12 schools to organizational leadership to entrepreneurship to politics. The most common thread is that seven hold the Master’s Degree in Creative Studies, often having chosen that against advice of others who saw it as lightweight or not applicable in the work world. In fact, they all became dedicated to the study of creativity, and to teaching it, finding it a transformative experience. While they are creative individuals in their own rights with many interests, hobbies, other work and ideas for the future, none expressed a wish or willingness to give up teaching creative studies. The department vision, “Igniting creativity around the world: Facilitating the recognition of creative thinking as an essential life skill,” has spurred them to continue growing the department and the field
through additional classes, technology, and teaching courses and giving presentations around the world. The usual academic cool, aloof, unapproachable attitude is not seen, nor is there great adherence to protocol. Syllabi, course requirements, exercises, activities, and ideas are freely shared. Hallways and common areas in the department are painted in bright artwork (a project of a former Master’s student), doors are open, faculty meetings are democratic, pay increases are a group decision, and almost any occasion is an excuse for gathering to have cake. Parties include staff, graduate assistants and work-study students; some include all students. There is a general feeling of camaraderie, energy, and happiness.

Structuring classes. Included are codes from the curriculum and instructors comments on various courses. The Creative Studies Master’s program is structured in two units. The first is a graduate certificate in Creativity and Change Leadership; the second is the Master’s Degree in Creative Studies. For some students, the certificate is sufficient for their professional needs, though many who initially plan to end at that point continue on to the Master’s degree. While only one course has the word leadership in the title, eight of the eleven courses examined included lead, leader, or leadership in the course description, content, or reasons for formally changing the descriptions in the college system. Courses are structured around Rhodes’ (1961) explanation of creativity as a function of person, press (environment), process, and product; around the Creative Problem Solving process; around facilitation skills, and around creativity history and research. Beginning courses cover the basics and serve as prerequisites for subsequent courses in a logical framework, building skills through the interaction of pedagogy and practice. Students are in two groups. Campus-based students live in the area and attend
classes year-round with others in the area. Usually, these are American students, though some international students move to the Buffalo area to immerse themselves in the program and the American culture. Distance students may be American, but many are from other countries around the world. They attend the first two classes in a two-week intensive program in Buffalo in June, continue the program online for a year, and return to Buffalo for two weeks to complete the certificate program. If they are going on for the Master’s degree, they complete another year online and return to Buffalo for their last two classes and to receive their degrees.

**Contributing to students.** The value of the program, in the learning it offers to students, is the substance of this category. Unpublished Master’s theses (Burns, 2005; Ly, 2004 & Lunken, 1990) and unpublished papers (Fox, 2005; Fox & LaMattina, 2006) indicate that graduates continue to use the skills, the Creative Problem Solving process, and the tools and techniques they learned in the program in their personal and professional lives long after graduation. Among the reported benefits are improved leadership skills, a more positive outlook on life, utility of the skills learned, application of the tools and techniques, improved self image and the confidence to approach any complex situation. Most of the comments from the instructors were anecdotal, such as the following:

Giuseppe: I’m working with someone right now who is evaluating some interviews that were done with a local organization, a development program around creative leadership and so far the results have shown a lot of positive transfer back to the workplace. These tend to be people who are in more formal leadership positions, their managers. The interviews are pointing to a lot of
critical incidents where what they were trained in around creative thinking, and
creative problem solving, and the principles related to those two areas have had a
good direct positive effect.

Connecting leadership and creativity. This offers the views of the instructors on
how creativity and leadership are connected along with information from the curriculum
to illustrate where and when the connections occur. Instructors indicated their beliefs that
creativity and leadership fit together naturally since leaders need to drive change and
growth, change and growth require innovation or improvement, and innovation and
improvement require new ideas which come from the application of creativity (Puccio, et
al., 2007). This was also evident as the Creative Problem Solving process was compared
with research on creativity, leadership and the combination of creativity and leadership
(Yudess, 2008). Several instructors indicated they could not see teaching creativity
without references to leadership. While some were concerned about the degree of
leadership pedagogy to add to creativity courses, it appears that leadership is already
included as part of eight course descriptions. Some concerns were that focusing on
leadership might turn away some students from the program who didn’t want to be
leaders in the traditional, designated position sense of the word. Several instructors
discussed an implicit approach to the connection rather than explicitly joining creativity
and leadership in the classroom.

Comparing Creative Studies to other programs. The instructors identified the
differences they saw between this program and other potential leadership training
programs they may know about, including MBA programs. There are many leadership
programs available in the world, whether formal degree bearing courses, executive
development programs through private organizations or public companies, leadership training offered by leadership researchers, or online training from any of these. This study focused on degree bearing courses involving creativity (Yudess, 2010). The instructors were only familiar, and to varying levels, with MBA programs. They expressed their beliefs that the Master’s Degree in Creative Studies prepares students better for leadership than does an MBA. The largest concerns with MBA programs were the lack of teaching the people part – interpersonal skills, emotional intelligence, group decision making – and the creativity part – tolerance for error and ambiguity, ability to deal with complex ill-defined problems, and skills to create change. One person indicated hearing that some MBA programs (in third-world countries) are beginning to teach more interpersonal skills by hiring a psychologist to teach them. But, generally, students in MBA’s are taught in algorithmic patterns suitable for managers who are charged with maintaining stability in an organization, but not for leaders who are charged with change and growth. It was agreed that both managers and leaders have relevant roles, but that it is important to keep the roles and goals for each clear. Research on the world top ten MBA programs (Yudess, 2009) showed that the word creativity was rare to find in an MBA program outline, and that the word leadership was also rarer than might be expected.

**Evaluating Creative Studies.** This involves the instructors’ views of the program, how far they’ve seen it come, how they work together, how well the program works and what else might be done to improve the degree. While instructors felt that the Creative Studies Master’s Degree offers more in the line of interpersonal skills than an MBA Degree, there was concern that more is necessary. Personal confidence, ability to take
risks, ability to work through disagreement, overcoming politics, emotional intelligence, intrinsic motivation and sensitivity to the environment could be improved. Other concerns were the need to embrace more technology (such as Second Life, augmented reality, remote collaboration, social networking), being able to influence college policy, and the concern that since they believe this program is profound and transformative, creative studies should be more readily available. The coverage emphasis on various topics in the program, such as interpersonal and emotional intelligence skills, more facilitation experiences, and instructor’s evaluations of their own growth needs are ongoing topics of discussion and problem solving.

Creating environment. This category was added as many references to it were found. Building a creative environment is the first task of an individual, a leader, or an organization that wishes to institute a creativity program. This involves more than just saying people should be more creative. Ekvall (1996) identified ten dimensions that validate the climate for innovation as a determinant of business success:

1. Challenge: How challenged, how emotionally involved, and how committed am I to the work?
2. Freedom: How free am I to decide how to do my job?
3. Idea Time: Do we have time to think things through before having to act?
4. Idea Support: Do we have a few resources to give new ideas a try?
5. Trust & Openness: Do people feel safe in speaking their minds and openly offering different points of view?
6. Playfulness and Humor: How relaxed is our workplace - is it OK to have fun?
7. Conflicts: Do people engage in interpersonal conflict or "warfare"?
8. Debates: To what degree do people engage in lively debates about the issues?

9. Risk-Taking: Is it OK to fail when trying new things?

10. Dynamism and Liveliness: Is it interesting and exciting to come to work?

All of these were positively related to a creative climate except conflict which had a negative relation to creativity, that is, the more conflict in the environment, the less creativity. These were affirmed by the statements of the instructors.

Amabile (1983) developed a method of assessing how well an organization builds a creative environment around the concepts of encouragement of creativity, autonomy or freedom, resources, pressures and organizational impediments to creativity (Amabile, Conti, Coon Lazenby & Herron, 1996). For some organizations, and some people, allowing playfulness, for example, in the workplace is considered lack of control, but it is a necessary part of “playing” with new ideas.

Without doubt the most successful companies of the future will be those that do not simply focus their energies upon narrow product, process and technical improvement, but those that are capable of building enduring environments of human communities striving towards a higher level of competence by managing individual, group and organizational learning. (Ahmed, Loh, & Zairi, 2010).

Creative problem solving. A course or program in creativity and leadership does not need to be a course or program using the Creative Problem Solving process or the Thinking Skills Model, as this one is. What is important is that general principles of creative thinking be taught, respected and practiced by administration, faculty and students alike. Those principles include deferment of judgment (either positive or negative) on any comment, idea or suggestion; tolerance for error, ambiguity and
complexity; honoring by acknowledgment any people, ideas or suggestions; an understanding of the value of a dynamic balance between divergence and convergence in problem solving; recognition and valuing of differences in people, thought processes, and personal styles; and building a creative environment as described in Ekvall (1996) and Amabile (1983).

*Program or goal content.* As context is a very important part of creativity, leadership and implementation of solutions, it is important to structure classes that offer alternative methods of addressing issues so students can adapt the problem solving processes and thinking skills to the environments in which they will work (Hon, 2010; Savery & Duffy, 2001).

For each college or university wishing to combine these two topics, balance is a consideration. At Buffalo State, with a long history in creativity education, creativity is on the heavier end of the scale. For a leadership or management program, it is possible that subject matter would weigh more. In truth, it is possible to provide a balance of the two by making the connections between them explicit. For example, case studies in a business class could be worked through with the creative problem solving process the program teaches. In a creativity class, evaluations of solutions could utilize business criteria. It is important to provide the safe classroom place to practice either one. Instructors, who are open to the moment, build in the issues that arise from student experiences.

This model may also be used in an organization or a home as well as an educational setting. Clear goals and expectations are needed. The issues of creative climate and the need for problem solving skills also apply.
Education/training. The program at Buffalo State College has a unique forty-plus-year history in the study of creativity, since the first graduate courses were taught in 1967. Having a history could hobble development as people become enamored or complacent with the status quo. But, this history is a positive in that a creativity program could not be called creative without growth and change which is seen in recent developments (Puccio, et al., 2007; Zacko-Smith, 2009). The Creative Studies program is a well-respected institution at this college. Other departments and administration often use faculty and students from the Creative Studies program to facilitate problem solving, mission or vision building sessions, idea generation, assist with community information gathering meetings, or impressing visitors from organizations or other countries. While the acceptance enjoyed at Buffalo State is difficult to build or achieve, especially without the 40 year background, with patience and determination it can be done, particularly in light of renewed interest in creative thinking by business, government, and other educational institutions:

CEOs now realize that creativity trumps other leadership characteristics. Creative leaders are comfortable with ambiguity and experimentation. To connect with and inspire a new generation, they lead and interact in entirely new ways. (IBM, 2010)

Instructors in these programs need to be exemplars of what is being taught, valuing its worth. They need to be positive and approachable, forward thinking, vision driven, excited by change and growth, confident in their own creativity, open to new ideas, and happy in a teaching position. They need to recognize the applications of creativity and leadership to their own lives and “Model the Way” (Kouzes & Posner,
creative, involved, committed, emotionally intelligent leaders who wish to raise the students’ skills in the same areas.

The manner in which courses are structured and the way in which they are taught must be geared together to produce the maximum benefit for the maximum number of students. This statement suggests openness to additional assistance for students who are attending, participating, and working hard, but whose needs are not being met for some reason. Instructors support the course structure with additional help as needed, often addressing context issues. At the same time, the use of these concepts in leadership needs to be made explicit (Slusarz & Sun, 2001). This is easily done through use of common texts such as Kouzes and Posner (2007) and Northouse (2009) as they stress the value of these concepts to leaders. Those texts explain why; the creativity training explains how. Practicing the skills involved on a regular basis reinforces the learning, and aids in transfer of the skills to the workplace.

Creative leadership. Combining creativity and leadership explicitly results in a definition of a new leadership style, Creative leadership (Zacko-Smith, 2009) which was learned during the study. Creative leadership is defined as “the relational process of bringing ideas into being to accomplish positive change” (Zacko-Smith, 2009, p. 1). Emphasizing positive change distinguishes it from change leadership which does not include the quality of the change.

Connections between leadership and creativity. Benefits for students start with a repeatable problem solving model that includes the use of cognitive and affective thinking skills. Additionally, students experience improved leadership skills, a more positive outlook on life, a sense of the utility of the skills learned, application of the tools
and techniques, improved self image and the confidence to approach any complex situation. Openness to new ideas; tolerance for error, ambiguity and complexity; ability to handle conflict; reflective learning; and affirmative evaluation of ideas are personal traits that develop. Most of all, a creative leader needs to learn to be flexible. Rigid structures, rules and roles do not motivate the workforce. Sometimes, someone other than the designated leader needs to be in charge of facilitating a portion of the work. Leadership is not a position. It involves a person with knowledge, skill, and ideas in a particular situation stepping up at the appropriate time. A good leader will know that and recognize that allowing someone else to take that lead is part of the job of developing others. Combining an interactive, momentum-building process with connections between leadership and creativity drives the development of new creative leaders and the search for positive change.

*Synergies.* Synergy is defined as “when the group outcome is greater than the sum of the individual contributions” (Northouse, 2009, p. 106). There are several synergies involved in this study. Strong leaders have a shared vision with a team of workers and, using a creative problem solving approach, will be able to accomplish above the expectations helping organizations grow (Schmidt, 2010; Sheldon & Elliott, 1999). Excitement and energy generated can be maintained with continuous improvement as an outcome. Teachers will be working with, rather than at, students, tolerating error and ambiguity, and helping them identify and address their challenges and contexts positively (Savery & Duffy, 2001; Jones, 2009). Greater interpersonal skills and emotional intelligence will reduce conflicts and promote an attitude of confidence in utilization of problem solving skills to overcome differences.
Absenteeism is not an issue when people are treated as adults and motivated by full engagement and energy through an interactive process (Lipscomb & Snelling, 2010). Skills developed in the use of creativity help develop the leadership skills of all participants (Burns, 2005; Ly, 2004; Lunken, 1990). Tools and techniques learned through using creativity and group problem solving carry over to personal life promoting health and happiness (Munt & Hargreaves, 2009; Yilmaz & Izgar, 2009).

The synergies are built by creating an environment in which people are free to share ideas, make mistakes, and be part of the action of problem solving. An interactive, momentum-building creative problem solving process works best for building synergy. By involving everyone in the problem solving process, it takes longer, at times, to come to an agreeable solution, but a shorter time to gain acceptance and implement the solution chosen. A feeling of full participation in, and ownership of, the solution develops in those involved resulting in high energy and motivation to make the solution work. It allows leadership to take a functional rather than a positional role. This kind of process inspires people to do more. Since continuous improvement is a goal of most organizations, this is a quality result. It allows the organization to be the benchmark for comparison, rather than follow other organizations into the future.

**Efficacies.** Teaching leadership often seems to involve knowing when, where and why something should be done; creativity offers who, what and how to complete the partnership of success. Having a repeatable, cognitive, rational, and semantic problem solving process adaptable to any situation gives the leader the confidence to proceed. Teaching a creative problem solving process along with the tools and skills needed to
conduct it at the same time as leaders are learning how to identify the issues in the workplace and the needs for the future makes the lessons extremely practical and doable.

**Strategies.** Probably the most important strategy for including creativity in the educational system, the workplace, or the home is the development of a creative environment. The climate must include tolerance for error and ambiguity, deferment of judgment, role flexibility, time and support for idea development, resources for new projects, playfulness and humor, and ability to give and receive feedback among others discussed. Program or goal content is another strategy component. The college or university program should be laced with variety in topics, accommodations for learning styles, time for practice, real-world examples of challenges from students, and dedicated faculty who are unconsciously competent in creativity and leadership skills. Education or training is another strategy. While the creative problem solving processes studied are based on the way people generally think, just documented for repeatability, learning to work with the skills and tools involved takes time and study.

**Summary of Findings**

The model of a creativity and leadership training or education program then begins with development of a creative environment. Within that accepting and inviting situation, a repeatable creative problem solving process provides structure and focus. The program content is balanced between the two subjects as considered appropriate. Instructors are unconsciously competent in both creativity and leadership, that is, they live it, providing role models for students. The connections between creativity and leadership are made very explicit in all phases of learning and practice. The role of leader is clearly not positional by definition; instead it is a flexible process anyone can
perform. Operating in this paradigm, synergies emerge from the energy and involvement of everyone participating in the workplace, home or classroom.

**Implications**

A number of issues arose in the interviews about how the Creative Studies program might be improved. Some of these were raised with the usual creativity style question that suggests there are a variety of answers: “In what ways might we …” Others were raised with solutions already being considered. Implications provided in this section will include those and others that were identified as part of the total view of the study.

*Interpersonal and intrapersonal skills.* The most frequent need identified was interpersonal skills interspersed with some intrapersonal skills. There is a great deal of concern about the sporadic use of this kind of training, not only in this program where it is covered specifically, but in other programs where it is not covered at all or very lightly. Interpersonal skills are critically important for leaders or any creative person who must inspire motivation in others. Skills identified were emotional intelligence, sensitivity to people and environments, flexibility, listening, a facilitative approach to problems, risk taking, decision making, managing crisis and conflict, opportunity scanning, ability to give and receive feedback, imagination, knowledgeable in the domain, and unconsciously competent in creative problem solving (Puccio, et al., 2007). Also important are leader or creative person attitudes. Those included tolerance for error, ambiguity and complexity; openness to new ideas and changes that challenge the status quo; self confidence; self awareness, attentive to affective issues; intrinsically motivated; dedicated to developing others; consistent personal standards and values; courage to face resistance; emphasis on
continuous improvement and learning; sharing the leadership role; and a global perspective. In short, as one participant identified, a strong leader or creative person needs an appropriate mind set, tool set, and skill set.

How might the concerns about the interpersonal and intrapersonal skills training be addressed? One person reported hearing of a university that had hired a psychologist to teach this area of their program. For the last 15-20 years, the medical field has been studying how these skills are taught and has found that the programs are inconsistent and curricula were not coordinated (Egnew & Wilson, 2010). Egnew and Wilson (2010) suggested that observation of student interactions and structured feedback specific to interpersonal skills would improve development. As the Creative Studies program is highly interactive and student facilitation of individuals and groups with subsequent feedback by the instructor and other students is a regular occurrence, this suggestion would be appropriate for improvement in this Master’s degree program as well. It is difficult for an instructor to see everything and evaluate everything, especially since the conduction of a facilitation session is the main goal. A checklist could be developed which includes and emphasizes both facilitation and interpersonal skills reminding people to look for each part, and to plan their own presentations with all the skills in mind.

Perhaps the most difficult part to train is having the courage to face resistance and risk taking in that context. Yudess (1983) identified creative problem solving training as a skill to learn to improve risk taking. That study outlined the following steps that might be taken to improve risk taking:
1. Develop problem solving skills including defer judgment, gather data, define the problem, generate multiple solutions, analyze alternatives, analyze consequences, and form a plan of action. These are the basic steps of a creative problem solving process.

2. Through introspection or counseling, examine the personal risk taking pattern in which risks are, or are not, taken. If the pattern is unacceptable, strategize (or problem solve) how to change it.

3. In analyzing a risky situation, realistically assess what the risk is, how it came about, where responsibility and decision making for the risk lies, who should appropriately address the risk, why it is important, what is the value in taking or not taking the risk, how might the risk be reduced or eliminated, when will it be over (deadline) and what will happen when it is over. This puts a future orientation on the risk and spends energy on analysis rather than stress.

4. Participate in training or educational programs in problem solving, business planning, interpersonal skills or others related to the cognitive and affective elements of the risk.

5. Groups tend to make riskier decisions than individuals. Participation in group problem solving improves individual risk taking ability (Bem, Wallach & Kogan, 1965).

6. Be tolerant of error. Checks and balances in good planning procedures will help eliminate catastrophes.

7. Beware of overly consistent risk taking styles. There is no value judgment in favor of always risking or always being conservative, just in learning how and when to apply each.
8. If someone identifies as a risk taker or not a risk taker, check what that means as risk is situational, varying depending on circumstances; personal depending on a number of personality characteristics, attitudes, skills and bias toward instructions given; and environmental or context based.

It would be helpful, if students were encouraged to examine their risk taking capabilities and use some of their practice facilitations to problem solve and make plans of action for the foreseeable adversity they might face on the job. This would also assist with skill transfer.

**Including leadership in the curriculum.** Several concerns were expressed about the addition, or the potential addition, of leadership to the creativity curriculum. One concern revolves around the recognition that literature in the field of creativity is growing exponentially and covering a second, equally large, topic would mean that neither topic receives adequate space. Another concern is that students searching for a creativity program will possibly not be interested in learning to be a leader and students interested in leadership, if they buy into the creativity side, may not be satisfied with the amount of leadership training that is provided. A third concern was the introduction of the Thinking Skills Model with new verbiage, structure and additional conceptual connections.

After careful examination of the interviews, four areas of recommendation emerge:

1. Agree on a definition of leadership and expand it. The definition of Creative Leadership seems appropriate. It is not based on position which means there is no pressure on students to think they are being trained for a positional leadership role they don’t have, or don’t want. A creative leader is someone who helps bring about positive
change in a relational process like Creative Problem Solving or the Thinking Skills Model. Help students understand that everyone is a leader to some degree, just as it is explained that everyone is creative. Styles are different, contexts are different, personalities are different, but at some point everyone is a leader even if it is only as a leader of her/his own life.

2. Fully examine the curriculum and note the eight courses with leadership in the description. Students will be expecting what they read in these descriptions. This does not have to mean that leadership takes over the curriculum. What it does mean is that the connections between creativity and leadership, which are seen in the leadership literature (Kouzes & Posner, 2007; Northouse, 2009; Sternberg, Jarvin, & Grigorenko, 2009) are made explicit. Even a mere explicit mention can trigger connections for students. If leadership texts are listed in the syllabus as recommended reading, and the projects list offers a leadership challenge as an option, the connections are there for those who want them and not forced on those who don’t. Working through those “moment of truth” situations in a safe classroom environment allows the student’s full potential to develop and makes the lessons stick.

3. The Thinking Skills Model is more complex than the older Creative Problem Solving models, such as the most recently used Plain Language Model, because it adds a layer of depth about the type of cognitive and affective thinking needed in each step. The concern is that this makes it less accessible to students. This is probably true for some students, though not for those motivated to be creative change leaders. It may involve a period of adjustment as new tactical teaching aids are developed, each instructor has the opportunity to internalize the model, and the applications to business thinking become
more apparent. Another option currently being considered is to teach the model progressively, adding layers of depth as the students get more familiar with the process.

4. Just as in most of the world’s problems, the biggest issue is communication. While it is boring and time consuming to rewrite curricula, go through the approvals required in a college and make sure that each existing iteration (print, file, catalog, online, etc.) is in agreement with the others, it is required. Only one instructor had an accurate description of one of the courses. It was wrong everywhere else. The title of the certificate program, Creativity and Change Leadership, is difficult to find online as it is referred to as the Graduate Certificate for Professionals. That leads students to mistrust communication, doubt the courses and/or the instructor, and wonder if the program is structured appropriately. It is also not helpful for marketing.

Interestingly, other comments were about the need for more leadership literature and background in the program, particularly in the early stages, so that students who are interested can pursue those interests as they progress. It would also prepare them for the CRS 635 course, Creativity and Change Leadership. Recognition of the need for change, innovation and thus, creativity, connected to what leaders in any context need to do to move in new directions accomplishing meaningful goals, moves both creativity and leadership along a strong and ongoing development path.

Other programs. The implications above are specifically related to the Master’s Degree in Creative Studies at Buffalo State College, but can be applicable to any program. Interpersonal skills are required in virtually all professions and personal situations. Consider the impact of interpersonal skills on patients, clients, customers, family, friends, colleagues, subordinates, service workers, and international visitors just
to name a few. Programs for learning these skills are abundant. It is important, however, to ensure that what is wanted is what is taught. There are many views of interpersonal skills, for example, some view it as “how to deal with difficult people.” Interpersonal skills are not dependent on a creative problem solving process, but they can be enhanced with one, for example, generating alternative behaviors and being able to evaluate them for appropriate use.

Risk taking, though it is in the eyes of the risking person, can be improved and developed. The suggestions for risk taking above (Yudess, 1983) can be adapted for the context in which they would be used. For organizations, clarity in the definition of what constitutes a risk and what levels of risk need what levels of approval are necessary.

If another organization wanted to add creativity to an existing program, there are some cautions. What needs to happen first is an agreement between faculty members, management, coworkers, or whoever is present in that context to adopt certain attitudes toward creativity, that is, to build a creative environment. They need to have tolerance for error, ambiguity and complexity; openness to new ideas and changes that challenge the status quo; self confidence; self awareness, attention paid to affective issues; intrinsic motivation; dedication to developing others; consistent personal standards and values; courage to face resistance; emphasis on continuous improvement and learning; sharing the leadership role; and a global perspective. They need the same attitudes that are recommended for creative leaders because they can make or break creativity by these attitudes.
Future Research

Studying creativity or leadership can be a life work. Studying both takes a team. This is evidenced by the prolific work generated, only a small portion of which is addressed in this study. There is always more that can be examined. This study has stimulated the following areas to consider:

Technology. For some people, technology and creativity do not connect. While that is not true in the Creative Studies department, movement to adopt more technology is very slow. It is not surprising as the group isn’t part of the digital native crowd, with only one instructor being under forty years of age. There are online courses for the distance students with new techniques instituted regularly, but some, at times, expressed regret they were not in front of the class taking in the dynamic interaction to gain energy. There have been some Second Life conferences, some remote collaboration, some augmented reality experiences, and some use of virtual platforms, as well as involvement in Google groups and FaceBook. Overall, however, there is not highly enthusiastic adoption of these.

One instructor is involved with research in how creativity sessions can be held virtually and how one can pick up the affective cues from people’s responses in a virtual setting. Will this require a new set of facilitation skills? Is an ethnography study of leadership in the virtual world needed? This research might address the lack of personal connection issues and make the virtual world more appealing to these instructors.

Interest, support and assistance from others would help advance the work.

Growth of the Creative Studies program. A higher level consideration for this group was how to grow the program. With the department vision, “Igniting creativity
around the world: Facilitating the recognition of creative thinking as an essential life skill,” comes a global perspective. Perhaps with the growing interest in creativity as the number one critical skill identified in the IBM study of 1500 CEO’s around the world (IBM, 2010), and the recent Newsweek cover story about the creativity crisis (Bronson & Merryman, 2010), some of that interest could be leveraged. How do organizations learn creativity? Do they know it can be taught and learned? (Parnes and Noller, 1972 a, b, c; 1973). Are they willing to release the view of creativity as only about generating ideas and recognize the value of a cognitive, rational, semantic and repeatable process for getting new ideas? In other words, they talk about the need for creativity, but are they ready to act on their words? That study could be valuable to everyone.

More connections between creativity and leadership. Originally, this study was to be quantitative. Using the Metacognitive Leadership Exercises (MLE©) assessment tool designed by Fleishman (2007), the plan was to test students prior to entry in the Master’s Degree program and again two years later to see if both creativity and leadership skills were improved by the program. The instrument measures general problem solving skills, solution construction skills, planning and implementation skills, solution evaluation skills, social judgment skills, and metacognitive process skills. These are very consistent with the topics in the Creative Studies program, the Creative Problem Solving process and the Thinking Skills Model. Unfortunately, the measure is not ready for civilian use as prior use has been military and the situations used as examples are military exercises. This is still an area of interest and at some point this research would make a large contribution to the field of connections between creativity and leadership and would help make creativity more marketable to organizations.
Benefits of creativity study. Several unpublished papers were cited regarding the benefits of the Master’s Degree in Creative Studies (Burns, 2005; Fox, 2005; Fox & LaMattina, 2006; Ly, 2004 & Lunken, 1990). A formal qualitative research program to study the benefits over a period of years would be appropriate. Publishing the results would result in more attention to the program, promote studies of benefits from other creativity and leadership programs, and develop some healthy competition to improve America’s creativity crisis and address the concerns of IBM’s CEO study.

Thorough evaluation of MBA programs. In this work, the curricula available online for the top ten MBA programs in the world (Financial Times, 2009) were examined to see when and if creativity and leadership were mentioned. An appropriate follow up study could compare actual course descriptions for more than the top ten and determine if concerns about the ability of those programs to provide leadership training are accurate or prejudicial (Garcia, 2009). This could help the MBA programs and the companies that rely on them to produce their top executives.

Study of other programs. This study looks specifically at one degree program in creativity and leadership. Other programs (Yudess, 2010) could be studied for comparison and for resulting benefits. With Buffalo State having the first and oldest program, it would be useful to see what the rest of the world has produced and how far the study in this area has come.

Study Summary

The purpose of this study was to examine the synergies involved in teaching creativity and leadership together and develop a grounded theory of how that works. The study was done as a series of interviews with eight individual instructors in the Master’s
Degree in Creative Studies program at Buffalo State College, one of the few places in the world credentialing creativity with a degree.

The instructors in this program have a consistent understanding and love of creativity and have been studying it for years. They are happy with their jobs and don’t wish to leave them, enjoying the teaching as much as the subject. They do not have as consistent an understanding and appreciation for leadership, but they agree that leadership and creativity are inextricably connected. Their largest concern is that putting too much of the leadership pedagogy into the creativity programs will dilute both subjects. They are in the midst of adopting a new version, the Thinking Skills Model, of the Creative Problem Solving process that is the basis for all the courses in the program. Like the adoption of any new program, there are ups and downs, but there is determination to use their skills to make it work.

The courses in the Master’s Degree develop skills in assessing and defining creativity, ways to deliberately foster creative potential, understanding the nature of creative behavior, teaching creativity, facilitation, interpersonal interactions, and development and dissemination of research. Based on the Creative Problem Solving process outlined originally by Osborn & Parnes (Parnes, 1992), the Master’s classes have been taught at Buffalo State since 1967.

Leadership skills are newer to the program. They are a result of reports from alumni that their leadership skills improved as a result of the degree. Unpublished studies and an evaluation of a creative leadership development program have indicated a lot of positive transfer of leadership and creativity skills back to the workplace. Creative thinking, creative problem solving and the principles involved positively affect the work
participants are doing. Since the skills are comparable on a one-to-one basis in many cases, synergy is smoothly accomplished, almost as a by-product. For some, there is too much leadership in the Creative Studies program, fearing the dilution of creativity pedagogy; for others, there is not enough, concerned that the connections between creativity and leadership should be made more explicit.

One result of combining the concepts of creativity and leadership is the beginning of a definition of a new leadership style, Creative Leadership (Zacko-Smith, 2009), defined as “the relational process of bringing ideas into being to accomplish positive change.” Emphasizing positive change distinguishes it from change leadership which does not include the quality of the change.

The instructors were not familiar with other leadership programs than MBA programs. They feel that this Master’s degree in Creative Studies prepared students better for leadership than an MBA program. Leaders need to face change, ambiguity, and complex, ill-defined challenges while developing the skills of others and working toward a vision of the future. MBA programs prepare students for analytical thinking, financial decision making, and algorithmic maintenance of the status quo with little or no emphasis on people skills. The instructors acknowledge the need for both managers and leaders and that MBA programs do develop managers. They believe that managers can be creative and that leaders may also be managers, but the levels and degrees of skills are different.

As needs or concerns, the coverage emphasis on various topics in the program, such as interpersonal and emotional intelligence skills, more facilitation experiences, and instructor’s evaluations of their own growth needs are ongoing topics of discussion and
problem solving. They identified the need for more instructional material for the adoption of the Thinking Skills Model.

Conclusions

Creativity and leadership are interconnected on many levels with creativity an integral function of leadership. A program in creativity that does not include leadership would be lacking and vice versa. The model of a creativity and leadership training or education program begins with development of a creative environment, includes a repeatable creative problem solving process, and program content is balanced between the two subjects as considered appropriate. Instructors are unconsciously competent in both creativity and leadership. The connections between creativity and leadership are made very explicit in all phases of learning and practice. It is understood that leadership is not a position, but a flexible and moving role in which anyone may take responsibility in the moment to move in the direction of the vision. Synergies emerge from the energy and involvement of everyone participating in the choices, discussions, problem solving, implementation and rewards in the classroom, workplace, or home.
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Appendix B

Comparison of Top 10 World MBA Programs (Financial Times, 2009)

1A University of PA: Wharton

Leadership Essentials
- Foundations of Leadership and Teamwork (+ Ethics)
- Learning Teams
- The Gov’t & Legal Environment of Business
- Management Communication
- Management of People at Work

Analytical Foundations
- Decision Models and Uncertainty
- Managerial Economics
- Statistical Analysis for Management

Core Business Fundamentals
- Strategy:
  - Competitive Strategy
  - Global Strategic Management
- Finance:
  - Financial Analysis
  - Macroecon. Analysis and Public Policy
- Accounting:
  - Financial Accounting
  - Fundamentals of Managerial Accounting
- Operations:
  - Operations Mgt: Quality and Productivity
  - Operations Mgt: Supply Chain Mgt
- Marketing:
  - Marketing Mgt.: Design & Strategy

1B London Business School

Core courses
- Business Statistics
- Career and Professional Skills Development Programme
- Decision and Risk Analysis
- Discovering Entrepreneurial Opportunities
- Ethics and Corporate Social Responsibility
- Finance
- Financial Accounting
- Global Leadership Assessment for Managers (GLAM)
- IT for Business Value
- The MBA Language Programme
- Management Accounting
- Managerial Economics
- Managing Organisational Behaviour
- Marketing
- Operations & Technology Mgt.
- The Second Year Project
- Strategic Problem Solving
- Strategy Understanding General Management (UGM)
- Understanding the International Macroeconomy
3 Harvard Business School

Required Courses

Term I Courses
- Finance I
- Financial Reporting and Control (FRC)
- Leadership and Organizational Behavior (LEAD)
- Marketing
- Technology and Operations Management (TOM)

Term II Courses
- Business, Government, and the International Economy (BGIE)
- Strategy
- The Entrepreneurial Manager (TEM)
- Finance II
- Leadership and Corporate Accountability (LCA)

Wide choice of additional courses as electives.

4 Columbia Business School

Core Curriculum

First Term
- Corporate Finance
- Financial Accounting
- Managerial Statistics
- Managerial Economics
- Strategy formulation
- Marketing strategy
- Operations management
- Leadership development

Second Term
- Global economic environment
- Decision models
- Managing marketing programs
- 2 Electives
- Organizations
  Organizational change
  Power and influence
  Social networks and social capital
- Performance
  Operations strategy
  Financial planning & analysis
- Marketing
  Game theory and business
  Global economic environment II:
  Business cycles and financial markets
  Strategy structure and incentives
Programme Structure

Period 1
- Financial Accounting
- Financial Markets & Valuation
- Leading People & Groups
- Prices & Markets
- Uncertainty, Data & Judgement

Period 2
- Corporate Financial Policy
- Foundations of Marketing
- Leading Organisations
- Managerial Accounting
- Process & Operations Management
- Strategy

Period 3
- 4 Electives
- International Political Analysis
- Macroeconomics in the Global Economy

Period 4
- 4 Electives

Period 5
- 3 Electives

General Management Perspectives
- Critical Analytical Thinking
- Ethics and Management
- Global Context of Management
- Managerial Finance
- Managing Groups and Teams
- Organizational Behavior
- Strategic Leadership

General Management Foundations
- Data Analysis and Decision Making
- Finance
- Financial Accounting
- Human Resource Management
- Information Management
- Managerial Accounting
- Marketing
- Microeconomics
- Modeling for Optimization & Decision Support (MODS)
- Non-Market Strategy
- Operations

Electives and specializations
6B IE Business School

**Pre Program**
- Intro to Quantitative Analysis for Business
- Intro to Financial Accounting
- Intensive Spanish Course

**The Program**
- Economic Environment and Country Analysis
- Entrepreneurship
- Financial and Cost Accounting
- Management Control
- Quantitative Methods
- Operations Management and Supply Chain Management
- Fundamentals of Marketing Management
- Marketing Strategy & Plan
- Strategy
- Strategic Management
- Fundamentals and Financial Management
- Information Systems Management
- Organizational Behavior
- Human Resource Management
- Management Skills
  - Teamwork Techniques
  - Negotiation Techniques
  - Coaching Workshop

8 CEIBS

**Required Courses**

**MANAGERIAL SKILLS**
- Quantitative Methods for Management
- Effective Presentation Skills
- Leadership and Teamwork

**BUSINESS FUNDAMENTALS**
- Economics and Decision Sciences
- Micro-Macro Economics
- Chinese Economic Reform
- Statistics for Managerial Decision Making
- Operations Management

**FINANCE & ACCOUNTING**
- Financial Accounting
- Managerial Accounting
- Corporate Finance

**MARKETING**
- Marketing Management

**MANAGEMENT**
- Organizational Behavior
- Strategic Management
- Entrepreneurial Management
- Ethical Leadership
- Sustainability
- Corporate Governance

**CHINA MANAGEMENT**
- China within the World, China HR
- China Discovery Week

**Electives**

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200
9 MIT Sloan School of Mgt.  
First-Semester Core  
• Econ. Analysis for Business Decisions  
• Data, Models, and Decisions  
• Leadership & Personal Effectiveness Coaching  
• Communications for Managers  
• Organizational Processes  
• Team Project  
• Special Seminar in Organization  
• Financial Accounting  

Courses  
• Accounting  
• Communication  
• Corporate Strategy & Policy  
• Finance  
• Health Care Management  
• History, Environment and Ethics  
• Industrial Relations & H R Mgt.  
• Information Technologies  
• International Management  
• Law  
  • Leadership  
• Managerial Economics  
• Marketing  
• Operations Management  
• Operations Research/Statistics  
• Organizational Studies  
• System Dynamics  
• Technology, Innovation and Entrepreneurship

10 NY University: Stern  
Required Core Courses  
• Financial Accounting & Reporting  
• Statistics & Data Analysis  
• Teams and Leaders  
• Professional Responsibility

Core Course Menu  
• Competitive Advantage from Operations  
• Firms & Markets  
• Foundations of Finance  
• The Global Economy  
  • Leadership in Organizations  
• Marketing  
• Strategy

Electives  
Specializations  
• Accounting  
• Banking  
• Corporate Finance  
• Data, Models and Decisions  
• Economics  
• Entertainment, Media and Technology  
  • Entrepreneurship and Innovation
Appendix C

Guilford’s Structure of the Intellect: J. P. Guilford was particularly interested in the field of creativity and it figures into his structure of the intellect model.

With five operations which can operate independently on five contents to produce six types of products, this suggests there are 150 components of intelligence.

The 58 tests used for Structure of the Intellect in the Parnes-Noller Creative Studies Project came from Sheridan Psychological Services, from Guilford and from tests they devised. The tests measured:

1) all content areas except behavioral for the cognition operation,
2) the semantic area of the memory operation,
3) 19 of the 23 cells of the divergent production operation (no tests were found for the divergent production of figural relations),
4) the symbolic, semantic and behavioral areas of convergent production operation,
5) and the symbolic and semantic areas of the evaluation operation.
Appendix D

Experimental subjects outperformed control subjects on these. (Parnes & Noller, 1972b).

1. Seeing different meanings (Analyzing words for other meanings)
2. Rhyming words (Volume of words rhyming with a given word, from Guilford)
3. Possible jobs (identification of symbols)
4. Stony Brook coping problems (How the student would react in a situation)
5. Alternate uses (For common items)
6. Apparatus test (Improving items)
7. Alternate methods (Various ways to perform a task)
8. Alternate picture meanings (Reading body language)
9. Problems with the educational system (Problem identification)
10. Pertinent questions (Before decision making)
11. Procedure applications (Use of procedures elsewhere)
12. Multiple social problems (Recognition of issues)
13. Utility (Multiple uses of an item –tests fluency of ideas)
14. Evaluating ideas (Criteria and consideration of ideas before decision making)
15. Problems in college (Recognition of potential problems in a setting)
16. Problem prevention (How to minimize or eliminate problems from # 15)
17. Improving research testing Part I (Ideas to improve the research process)
18. Improving research testing Part II (Factors for consideration in deciding which ideas in # 17 are the best criteria)
19. Improving research testing Part III (Choosing the best idea from above, develop a plan for implementation.)
Appendix E

Summary analysis of student reactions at end of second year of Creative Studies

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>% of Students Checking 2 Top-Gain Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>I tend to take more factors into consideration in making decisions than before the program</td>
<td>91</td>
</tr>
<tr>
<td>I find that I am more prone to try different approaches to doing something or to attacking a problem than before the program</td>
<td>84</td>
</tr>
<tr>
<td>I find I am better able to develop my ideas and put them to use than before the program</td>
<td>84</td>
</tr>
<tr>
<td>I find I am better able to think up effective ideas than before the program</td>
<td>81</td>
</tr>
<tr>
<td>I find myself better able to cope with problems than before the program</td>
<td>81</td>
</tr>
<tr>
<td>I find myself more open-minded to ideas of others than before the program</td>
<td>78</td>
</tr>
<tr>
<td>I find I am better able to evaluate my ideas than before the program</td>
<td>74</td>
</tr>
<tr>
<td>I find myself more observant than before the program</td>
<td>72</td>
</tr>
<tr>
<td>I find since taking the program that I tend to exert more effort in mental tasks rather than quitting so soon</td>
<td>71</td>
</tr>
<tr>
<td>I find myself more aware of problems and challenges than before the program</td>
<td>71</td>
</tr>
<tr>
<td>I find myself more self-confident than before the program</td>
<td>58</td>
</tr>
<tr>
<td>I find myself more inquisitive than before the program</td>
<td>52</td>
</tr>
<tr>
<td>I find myself a more active participant in discussions than before the program</td>
<td>48</td>
</tr>
</tbody>
</table>

Based on 94% of students who responded to questionnaire (Parnes and Noller, 1973, p. 28)