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Applied Creativity: Tools Toward Transformation: An Undergraduate Curriculum

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APPLIED CREATIVITY: TOOLS TOWARD TRANSFORMATION AN UNDERGRADUATE CURRICULUM

by

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Abstract:

The greatest barrier to creative thinking may be the current definition. If creativity is believed to be an unconscious, undefinable process, a competitive and comparative hierarchy or even limited to specific domains, then the pursuit of creativity may be seen as an overwhelming endeavor. I believe everyone is creative, not just a few "out of the box" individuals. We are not limited to sleeping on a problem or getting into a relaxed, happy state in order to enhance creative thinking. I also believe that creative and critical thinking can be applied to *teach* creativity so I am offering an innovative curriculum for my new theory. Like Roger Von Oech, I believe that there is a "team" within us that personifies our four kinds of creativity. By adapting a systems thinking management model, the four kinds of creativity that I believe we can incrementally increase and use are as follows: inventor, pioneer, engineer and diplomat. We may have preferences or more fully developed one of these multiple creativities, but I believe all four are present and are equally important—these are not styles or dispositions that can be separated or ranked. It is not enough to invent ideas, we need to have the complementary skills to implement, refine and share them as well. To teach practical and self-actualized creativity beyond brainstorming, individual and collaborative activities must be utilized along with appreciative inquiry and ethical service. Through "adopting, adapting and creating" thinking tools, creativity can be accessible and fully realized in any person or situation. Because the Critical and Creativity Thinking program at UMass Boston transformed my creativity, this is my effort to thank them and do the same.

To Jeremy Szteiter, Delores Gallo and Peter Taylor

Three Encouragers

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ACKNOWLEDGEMENTS

I need first to thank God for the inspiration and answered prayer; I'm glad for receiving renewed joy and some sense of purpose for my future.

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INTRODUCTION

"Part One: Graduate education is not merely an avenue for personal growth, job advancement or bragging rights. I would like to pursue a graduate degree in order to be inspired by professors and classmates with similar interests as I complete the challenge it offers. While I have tried to develop critical and creative thinking skills on my own through several individual graduate classes, I would like to learn more about these topics through the unique approach offered at the University of Massachusetts…"(From my initial application essay to the Critical and Creative Thinking Master's Degree program, 2011)

Every writer will tell you that the worst rejection letter is not the pitying or condescending, not the offhand or the almost, it is the one that the publishers do not even bother to write. I had applied to the Critical and Creative Thinking Master's Degree program in September of 2011, but less than two weeks from the start of the 2012 spring semester in which I had asked admittance, I still had not heard anything about my status.

When I finally had the courage to ask, I found out that my application been accidently misplaced and had not even made it to the CCT Program for consideration. That was on a Friday and yet somehow my paperwork was located. The CCT admission committee convened during that weekend on my behalf and expedited my application process; they went the "extra mile." I was accepted and admitted into the program by that following Monday. I do not know whom to thank besides Jeremy Szteiter, Assistant Director of the CCT program, for a second chance, or even how to begin, but a thesis is a start.

"Part Two: I have a passion for learning and teaching creative and critical thinking skills. With a balanced approach between both, each complements and enhances the other… It takes more than reading books by current authors to develop thinking skills… this piecemeal approach is not enough. I would like to accept and work through the formal discipline of a structured graduate degree… I know that creativity is as much a learned skill as critical thinking and that a systematic approach to creative thought does not take away the "a-ha" moment, but gives it more chances to appear. "Making a difference" requires different thinking and I would like to have the fully developed insights, attitudes and skills to dream, think and most importantly, do this with your help." (From my second required application essay to CCT program)

Journeys often come full circle, even if we are not the same as when we started. The goal of my degree was to not journey alone, but to have some encouragement and growth along the way and finally make a difference if I could to the very program that made a difference in me.

There is an idea of "paying back" and "paying forward" what you have received in the positive. In creativity, I feel there are responsibilities to use this inherent quality to serve and help others. The extra mile had to come from me this time. Even acknowledging that sometimes I can never repay and must accept different kinds of grace, in this instance I felt I had to try.

In the Critical and Creative Thinking program (also known as CCT), I've been asked to form a governing question, the purpose of my thesis, a personal guidepost to my path so that others understand what I am doing, for whom and why. This is my final version:

"What ideas and work of other people and of my own are needed to design an introductory undergraduate level course honoring CCT and synthesizing my learning experiences (without too closely mimicking the graduate CCT tools and concepts) so that

students will be encouraged to continue their own learning at UMass by taking some graduate CCT courses or even completing the entire degree program?"

The structure of my actual curriculum copies the actual courses and travels through them in the exact sequence as I had completed them within my own degree. Some of the actual assignments I did are re-used, this time as teaching tools for others. But critically important to me, some of the actual people that were a part of my education are in the thesis too, given credit or mentioned, so that they would know they mattered.

I was blessed and I will miss them. For a moment we were on the same path, sharing ideas and future plans. No matter the road ahead or when it diverges, this was a special time worth recognizing and appreciating. So many in life are too busy, seeing this as just a degree or a rung on the ladder. But I know life is short and I am thankful for the "present." I have been "alone in the wilderness," so I hope the roads now are filled with encouragement, with people giving time even with little to spare and finally, with some celebrations of goals met with others. This is my opportunity to admit that creating my own theory of creativity would not have been possible without the creative people that encouraged and inspired me to be a better person along the way. *Thanks for being there.*

CHAPTER ONE

INVENTING A NEW THEORY OF CREATIVITY

This chapter synthesizes my learning and experience of creativity. I review various theories and supportive research in order to explore and reflect upon the education I have been privileged to receive. Before I present my own theory and the implications for teaching it, I intend to compare and contrast the current thinking about the conflicting definitions of creativity. The first section looks at the theoretical aspects of creative thinking while the second presents applicable research. In order to honor the teaching within this unique graduate program, there are also some personal stories included in order to bridge my identity as both student and teacher, as both writer and thinker. After sharing my own creative origins and influences, the final section offers a theory of creativity based on my own experiences and insights.

Theoretical Origins and Influences of Creativity

Unconscious Versus Perception Based Creativity

Creativity is described as an "unconscious" process (Davis, 1999, p. 10), the "A-ha sudden insight experience" (p. 120) and something that some feel is "unable to be taught" (Best, 1982, p. 280). This stems in part from the belief in "divine madness" or "somehow tapping the universal mind" (Davis, 1999, p. 9). With this perspective, creativity is seen as a gift, or as if "something cannot be creative if it can be explained" (Best, 1982, p. 281). It has been relegated to a mysterious, subconscious process that does not take work, but merely occurs. The best example for this theorization is the practice of "sleeping on a problem." When awakened with the solution, the person attributes this to the idea "just coming to them" as if the brain did not

work to achieve the solution like the deliberate and observable systematic process of answering a math problem.

Based on empirical evidence, there is different view to consider. Over eighty years ago, Dr. Norman Maier did a study on the "a-ha" moment from subjects given the same problem to solve. He identified the least likely of four solutions from a control group. When he conducted the same creative problem solving experiment with another group, he tested whether giving a subtle hint would increase the number of subjects proposing this solution and decrease the time needed for the unusual, but desired solution.

Not only did the number of people finding this solution increase and the time needed decrease as predicted, but only one of the subjects recognized that the researcher's action was the catalyst. When interviewing the subjects about their metacognitive process in order to discover how they achieved the solution, some stated "it just dawned on me" and others made up elaborate stories to explain their thinking (Sawyer, 2007, p. 92).

This "priming" experiment was repeated by Schunn and Dunbar with students in 1996 and again, the solution was achieved earlier and by more students who had received their hint through training with a similar problem (p. 93). But crucial to my understanding of creativity is again the same conclusions as the experiment over sixty years earlier. These students also did not realize that their solution had intentionally been introduced by the researcher. They were not aware that their minds had made the connection from the outside stimulus and thus were unable to explain exactly where the idea might have originated. Sawyer concludes that "the myth that insight emerges suddenly and unpredictably persists because most people are not consciously aware of the social and collaborative encounters that lead to their insights" (p. 94).

To me, the "a-ha" moment might actually be an acronym for "a hint accessed" moment within creative problem solving and I agree with Sawyer that this "hint" might be traceable if the person were more aware and looking for the sources of their ideas. From some of these experiments, it might be possible to also suggest that "more creative" people are somehow more open and aware of environmental cues and that the people can learn to have better connections to transfer creative problem solving concepts through this increased sensitivity to their surroundings. Looking at teaching more awareness means deciding whether this requires focusing in one or multiple disciplines. Gardner and Sterner offer differing views of creativity in which to choose.

Creativity as Domain Mastery and a Hierarchy

Howard Gardner suggests there are different kinds of creativity and that "creativity in physics turns out to be quite different from creativity in poetry or politics or psychology." He theorizes that creativity is a subset of the multiple intelligences he has which are to date as follows: verbal, visual, kinesthetic, logical, naturalistic, musical, intrapersonal and interpersonal as well as possibly pedagogical and existential. He further proposes that these very different creativities within these multiple intelligences can only be expressed through the domain mastery which may take up to ten years to achieve. (Gardner, 2013, p. 6)

This means that in order to be creative as a writer, for example, the person must focus only on that specific area to master the craft. He does not link that mastery of verbal intelligence such as through creative writing with the cross over ability to being then more creative as a musician, scientist or even an artist. Despite exceptions like Da Vinci, who have achieved creative mastery in more than one domain, Gardner defines "big C" creativity with single

domain creative examples of Einstein and Picasso. This creativity is distinguishable, novel and allows individuals to truly stand out in a culture or time (p. 6). It is above "ordinary middle C" and above the lowest portion of the hierarchy, "little c." He does link creativity to intelligence, but some contemporary scholars, such as Robert Sternberg, offer some different ways to look at the relationship of creativity to intelligence from their research.

Creativity and Intelligences

Sternberg believes that "three aspects" of interactive intelligences are needed to fuel creativity: analytical, synthetic and practical. This is unlike Gardner who sees creativity working separately as an expression of each domain within his theory of multiple intelligences. Creativity within both theories is linked with intelligence, yet Gardner lists creativity as a subset of intelligence while Sternberg lists intelligence as one of creativity's subsets (Sternberg and O'Hara, as cited in Sternberg, 1999, p. 255).

Gardner's theory of multiple intelligences has led to "learning" based on the strengths and the domain preferences of an individual. Although some educators have labeled these intelligences as "styles," he does not agree with this informal interchange of terms (Gardner, 2013, p. 11). Sternberg however has argued his "intellectual styles" work as "mental self-government" which are metaphorically compared to the "legislative, executive and judicial" functions of creativity (Sternberg, 1988, p. 139). Gardner has made it clear that each of the multiple intelligences may have many more subsets besides creativity (Gardner, 2013, p. 12). Yet Sternberg's emphasis is that intelligence is just "one of six main elements that converge to form creativity" (Sternberg, 1999, p. 255).

Each theory has been tested by others who have found contradictory results from the application of their propositions. In order to avoid the "chicken or the egg" conundrum, looking

at creativity in a few other different contexts helps broaden the definition even if each component is difficult to clarify.

Creative and Critical Thinking

Even in the title for this section, there will be disagreement. A few theorists would argue that the "and" linking these "fundamentally different" (Bailin, 1987, p. 23) kinds of thinking might be problematic since creative thinking is concerned with the "expansion of ideas" while critical thinking is the "evaluation" of them (Marrapodi, 2003, p.3). Some theorists are not so opposed, seeing creative and critical thinking as "different but complementary," a "tension" between the "convergent and divergent" modes of thinking or one "creating a framework" while the other "transcends it" (Bailin, 1987, p. 23). Bailin, like some theorists, objects to the "standard view" and suggests that creative thinking is critical thinking and critical thinking is creative (p. 24). She states as follows:

> I shall argue that there are analytic, highly judgmental aspects to generating creative results, and imaginative, inventive aspects to being critical, and that it is exceedingly difficult to neatly separate out two distinctive kinds of thought (p. 24).

Ragsdell calls this "critical creativity" which relies on a "systematic principle" of "looking at the whole," considering "multiple views" and then engaging in "individual reflection" (Marrapodi, 2003, p. 21).

In order to address a "false dichotomy," Bailin connects innovation with creativity (p. 25) as she explains the two understood kinds of thinking by including each element during the process to product by the creative person, even as Marrapodi brings in research that refutes the interchangeability of innovation (ideas to action) with creativity, but provides similar methods in

the "critical creativity" process such as highly intentional "decision making," "knowledge of self and one's world" and "sustaining" insight with "evaluation and elaboration" (2003, p. 12).

Five Ps as Creative Dimensions

The first few pages about creativity focus on the internal origin of creativity which is only one facet of the subject. Another way to explore creativity can be found in five "p's"—the person, product, process, press and persuasion (Davis, 1999, p. 41).

The creative *person* is the one endowed with creative ability and the one who uses the relationship that exists between creativity and intelligence without having to know the form or function of the link to be creative. Studying the person which can include personality (p. 42) and efficacy might provide explanations of why people in similar situations are judged "more" or "less" creative. However, as mentioned earlier, Sternberg lists a few other factors such as knowledge, thinking styles and motivation (Sternberg, 1999, p. 255) for creative facilitation.

The *product* of creativity is the tangible outcome of "being creative," the display of ideas as something useful or something expressing self-actualization. For a product to be considered creative, it must be "original" and have worth (Davis, 1999, p. 47).

Creativity as a *process* can be described in stages that utilize different skills in order to create a product or solution. Some have compared this to the "steps in the scientific method" (p. 44), combining ideas," or "selection, generation and preservation," (p. 45). I also see the cyber education process of "relate, create and donate" (Shneiderman, 1997, p.1) as a viable definition to include for today's world. The most widely accepted sequence as the creative problem solving (CPS) model though is a process that includes fact and problem finding, idea finding, solution and acceptance finding (Davis, 1999, p. 45).

Press, also known as environment, is the acknowledgement that creativity "does not exist in a vacuum." Sawyer points to the social aspect, that "even when we feel solitary, sudden inspiration the origin can often be found in collaboration" (2007, p. 94). The environment is important since creativity is linked to culture, climate "psychological safety," "social conscience" while innovation occurs from "social need" (Davis, 1999, p. 48).

Even if the fifth "p" is not included in some considerations of creativity, *persuasion* as a means of leading or convincing others to see something or someone as creative can be linked to the relationship of creativity as perceived by the individual and by society. While Simonton added this dimension to bridge the creative person to society through mutual recognition of a product as creative, Davis adds connections to Gardner's interpersonal intelligence (1999, p. 41).

Individual and Collaborative Creativity

Looking at the creative person, self-actualization is key (Davis, 1999, p. 5) but even though "creativity is owned by individuals" (Gibson as quoted by Best, 163), there is the equal argument that an individual "can't be creative outside a group" (p. 287).

"Successful creators know how to keep the sparks coming by tapping into a collaborative process that unfolds over time" (Sawyer, 2003, p. 97). Sawyer proposes that "even such a solitary act such as writing has its origins in collaboration" (p. 79). Using the example of C.S. Lewis and J. R. R. Tolkien, he suggests that the support and discussion about ideas in their "Inklings" group allowed each to write better and explore similar ideas separately to bring back to the group for more sharing and refinement (p. 78). By showing the "before and after" effectiveness of these writers, Sawyer connected this to the editing and channeling of ideas that

also allowed others writers such as T.S. Eliot to collaborate with the help of his wife and fellow poet Ezra Pound (p. 79) within his individual creative products.

However, there are dangers to relying on collaboration for all creative tasks. First coined as "groupthink," there is an "illusion of group effectiveness" when the group cohesiveness and social enjoyment help the group feel more creative rather than prove that creativity by the results (p. 86-87).

Yet "creative output" is "a process in which both groups and individuals play important roles" (Kelly as quoted by Marrapodi, 2003, p. 17). Individuals may be better at certain activities such as brainstorming, but find it "boring" to do alone, even if adding these ideas to the group avoids the collaborative problems of "topic fixation," "social inhibition" and "social loafing" (Sawyer, 2007, p. 85-86). Groups, however, are more effective at problems that no one has seen before or require visualization of many different components needed in complex combinations (p. 71).

The key to collaborative creativity appears to rely on diversity, smaller group size, intrinsic motivation, group reward, frequent breaks and tasks geared toward "improvisational innovation" (p.73). By alternative group and individual activities, this allows a better balance between those who are drawn to more to either interpersonal and intrapersonal intelligences as well as "alleviating social anxiety" (p. 73).

Organizations can harness creativity in individuals and teams by going back to the "press" or "climate" to facilitate creativity. Three factors that contribute to success in the process are as follows: motivation within the individuals or group perhaps through expectation or acknowledgement of "newness," safety to explore and "be curious," and open feedback showing "support and patience" (Marrapodi, 2003, p. 16-17).

Interestingly though, instead of examining the ways to enhance the entire facilitative climate throughout the organization, creativity at the larger level is divided into four distinct, but interrelated segments that focus also on the product, process and persuasion in creativity, rather than concentrating on just the creative "press."

Creativity in Organizations

Organizational physics is the study of systems and groups of people that interact as working mechanisms. Scientists in this field study the way groups exist and function successfully. By definition, "everything is a system and every system exists in relationship to other systems" (Sisney, 2011). It is not a look at the individual, except as a part of the whole, yet individuals can be further defined as various systems too. Yet I find this offers the most helpful model to explain how creativity can exist and function successfully in each individual.

One of the models presented in "systems thinking" within organizational physics suggests that there is an "execution lifecycle" (Sisney, 2011) which to me correlates to creative process. Each of these four components, also known as the PSIU, must be present in the organization or team to be successful.

[Chart 1: Organizational Lifecycle Chart]

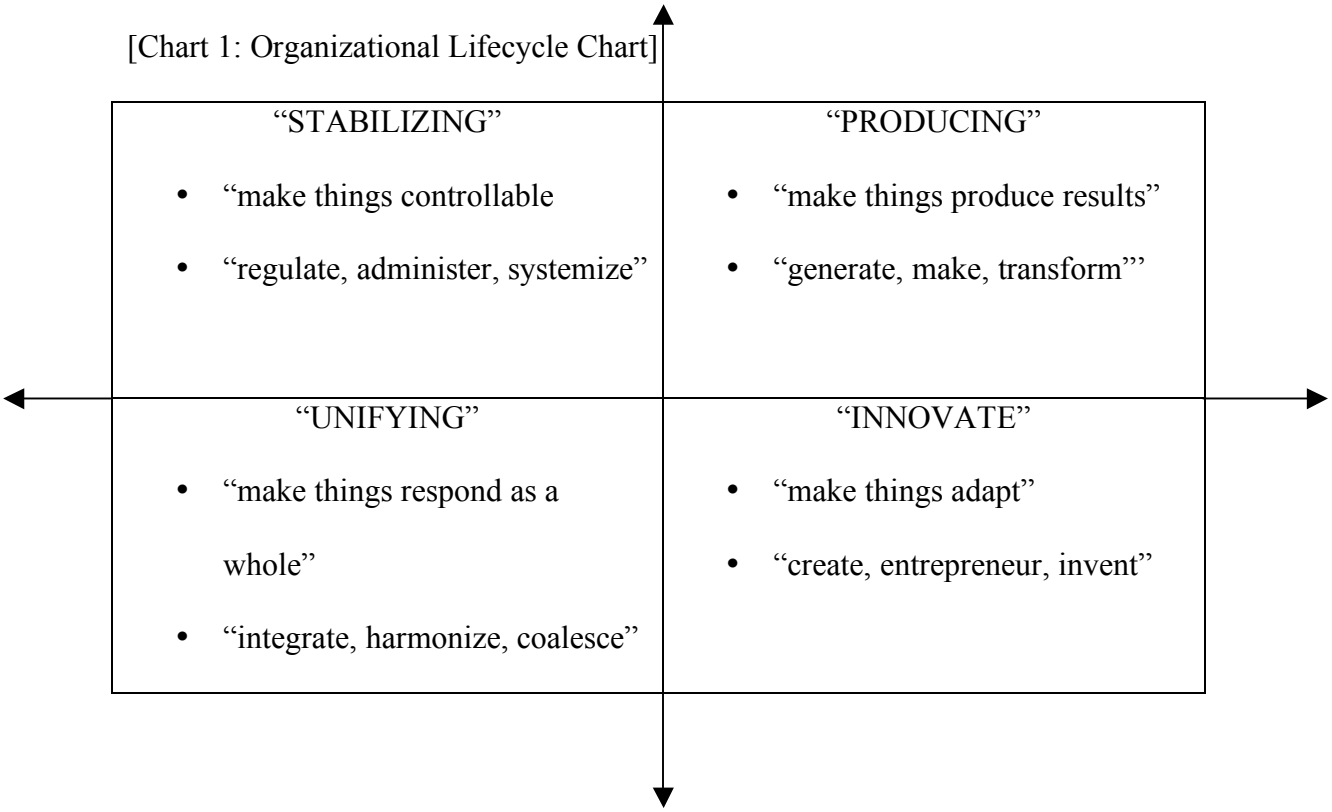

Chart based on Sisney, 2011 (Arrows clockwise from top center would read as follows: parts, shape, whole, respond)

This theory suggests there are "four basic patterns or forces that give rise to individual and collective behavior within an organization." The explanation that emerges from this categorization emphasizes that at different corporate "life stages," focusing on one component within the PSIU can extend the life of the organization based on the need at that point of existence (Sisney, 2011). Each of these components has also been identified as a management style (Sisney, 2011), but this look at systems relationships within and outside the organization has applications to creativity not only as a process, but as a definition of creativity itself.

Theoretical Review Conclusion

I have not included some of the other familiar theorists since the graduate program covers some of these pioneers in greater depth, but there are also some with interesting viewpoints worth mentioning including those of Teresa Amabile, Sir Kenneth Robinson and Patricia Kennedy Arlin that I did not have enough time to explore further and to include here.

Studying creativity theories is important to synthesizing my own understanding, yet I also must consider looking at CCT itself as an organization and system as part of the exploration of my developing ideas of creative thinking. As noted a few pages before, it is important to look for the collaborative and social stimuli that are my "a hint accessed" training moments in my graduate education. The ideas and teaching of my professors and classmates have a cumulative effect, but being able to reflect upon and choose ideas to adapt is also honoring my learning and intentionally recognizing my own "Inklings" group in my growth as a writer and teacher.

Personal Origins and Influences of Creativity

Learning about Creativity in CCT

"Creativity is a newspaper used as an umbrella." Giana Gray

This definition was given by my classmate in one of my first UMass graduate courses. We had been asked in the Creativity class to define creativity, even when the experts do not agree upon any one definition. Our group of three was no exception. Although in the end we chose a more generic, scholastic version for our collaborative definition, I wanted to discover the context of such an unusual metaphoric model.

Giana shared that she works with autistic children. One of the hardest things to teach her students, she told me, was the idea of using an object in a way different than its original intended use. She went on to explain that it was upsetting for her students to see spoons used as drumsticks or, as she first shared, a newspaper used as an umbrella. Roger Von Oech theorizes that mental blocks such as "the right answer," "following rules," "being logical" and "practical" inhibit creativity (Davis, 1999, p. 27). In no way am I suggesting in my analogy that autistic people are not creative. In fact, one of the characteristics of autistic individuals—extreme "sensitivity to an initial condition"—actually helps increase creativity, through something similar to the "butterfly effect" from Lorenz's chaos theory (Bradley, 2010). By acknowledging mental blocks as a resistance, I am also pointing out that creativity, as an inherent part of each individual, is affected by environment both internal and external.

Other classmates have influenced or confirmed my views of creativity as well. Constance Cook has shared the interrelated idea of "serendipity and persistence," in which each as a cycle fuels the other (personal communication, March 17, 2013) while Mary Lou Horn has

given a writing tool acronym, SEEIC, that could also serve as a creative problem solving sequence of "statement, example, elaboration, illustration and conclusion" (personal communication, March 19, 2013). Rhoda Maurer commented, "one of the largest obstacles to creativity is letting go of judgment…it is an essential element under the surface that influences the effectiveness of all the other tools" (personal communication, April 15, 2013) while Jessie Hughes O'Leary agreed stating, "I think people need to be given permission to see themselves as creative people even if they are not artistic or masters of their field" (personal communication, April 25, 2013).

Putting together some of my professors' personal views on creativity became intriguing work as well. Their ideas have challenged mine, yet I can see their philosophies woven into many of CCT student theses and implicit in the teaching that I am required to "select and adapt" from the faculty as shown below. On its own webpage at UMass, the CCT promise and expected student response is as follows:

> By the time CCT students finish their studies they are prepared to teach or guide others in ways that often depart markedly from their previous schooling and experience. In these processes of transformation and transfer, CCT students have to select and adapt the ideas and tools presented by faculty with diverse disciplinary and interdisciplinary concerns ("Critical and creative,").

By presenting some of the ideas and tools of the faculty, I hope to show connections that I have made in transferring and transforming creative processes that "depart markedly" from my previous schooling and experience. In order to do this, I am sharing some of what a few of these inspirational teachers shared with me.

As a distance learner, it was intriguing to have some CCT faculty as distance instructors located outside of the Boston area. Even if their topics were not specifically concerned with creativity, their views on this were similar to the core faculty on the UMass campus. Olen

Gunnlaugson (in Canada) shared, "it's clear to me that society and culture as a whole currently is in need of creative solutions, but more importantly the practical means to enact these outcomes through communication (personal communication, April 10, 2013). Mark Robinson, based in California stated, "I find that the approaches necessary in fostering creative thinking are similar to those that would be utilized in critical thinking" (personal communication, April 11, 2013).

One of my professors, Nina Greenwald, has affirmed some of these views of creativity. She stated that any thinking is interconnected with the affective domain, that creative and critical thinking are linked and interdependent. Creativity and metacognition are mutually enhancing processes (personal communication, May 8, 2013). Yet she also strongly asserts that creativity cannot be taught by itself but within context, that it must be part of a domain like writing or art (personal communication, spring 2013 semester). Her claims have interesting implications for me. If I assert that creativity must be taught apart from the fine arts to enable all four kinds of creativity to be nurtured, the only way that I can reconcile her opposing statements is to allow in a moderate amount of fine art expression for communication. She also has stated that metacognition can be taught as a stand-alone topic and should be part of every curriculum (personal communication, spring 2013 semester) so I would have to also include metacognition in the entire creativity curriculum to reconcile our differences of opinions.

Obviously creativity will also exist throughout the entire curriculum as a focal point. Luanne Witkowski, one of my creativity class instructors as well as a CCT graduate, is an artist who values "empowering students" and who believes creativity must have an "entrepreneurial" aspect. Her example of giving up some financial gain in order to pursuit her creative outlet confirmed the need for creativity to encompass self-actualization as a purpose. Innovation may define creativity as "useful," but it is useful to allow creativity to define the person too.

Creativity is defined by the CCT director of the program as well. Peter Taylor, my instructor in two classes and my advisor, generously offered his own model for creative thinking that "is an important underpinning or undercurrent of a creativity course" which "is not emphasized in creativity literature" (personal communication, February 11, 2013). His four Rs epicycle of "respect, risk, revelation and re-engagement" (Taylor, 2011) offers a clear guideline to collaborative climates that facilitate creativity as well as pointing to the individual need for each.

My role model Delores Gallo, one of the founders of CCT and my other creativity class instructor, seriously committed her course to showing the wider view of creative thinking beyond fine arts. Through examining social justice and philanthropy in our course work and applying it to our own lives, I believe she "identified some ways in which empathetic role taking relates to effective creative thinking" (Walter, 1994, p. 58) that she described in her earlier work in the critical and creative thinking world.

Active in both the critical and creative thinking world, Jeremy Szteiter set the bar for my work. As my instructor for four of my courses and another graduate of the CCT program, he impacted my views on collaborative creativity and reinforced my belief in the "student teacher." His thesis states, "in order to immerse oneself in lifelong learning, one must become involved in the process of teaching" (Szteiter, 2009, p. 24). My focus on teaching to learn and empowering students to do the same also relies in part upon studies that show we retain over ninety percent of what we teach ("How to retain,"). His preference for creativity coursework includes incorporating drama exercises as well as learning that is "informal," "fun" and something that "experiments with activities" (personal communication, March 15, 2013) so it is important to consider including these ideals in my work as well.

By applying some of the concepts and directions from the teachers that have transformed my ideas of creativity, I can in some way "honor CCT" as listed in my governing question. I also want to bring in other sources that inspire my creativity to make sure that I do not too closely mimic the creative thinking tools or ideas within CCT. In the next section I explore some of my other influences before culminating with my synthesized view.

Learning about Creativity outside CCT

Before I entered this graduate program there were several formative forces that created the framework inspiring and guiding me to pursue this degree. While it would be impossible to thank or even name the people and events that represent the turns in the road, a succinct look at some key foundations and concepts help provide a reference for the creativity theory that will follow this section.

My undergraduate degree is in elementary education. The classes I took at Clarion University thankfully were not traditionally taught; I had classes in which I practiced educational storytelling, saw science as a detective story and learned to finally love math from a teacher who showed us how to play creatively with blocks in his class. This activity based education certainly led to writing some multiple intelligence curriculum books for Group Publishing, even as I transitioned from substitute teaching in the public schools to motherhood and then teaching of children and adults in church.

My faith is the base for seeing and affirming the potential and value each person has and contributes to community. It also calls me to tithe talent, not just to God, but to the world he created as a response to his grace and gifts. There is a generosity that goes beyond the widow's mite, a modeling within the verse, "silver and gold I do not have, but what I have I give you"

(Acts 3:6a). If the world offers examples of selfless "shareware" and open courseware for the benefit and transformation of others through education, then I should also make a difference by caring for more than the church community and my workplace with my learning too.

In his book, *Roaring Lambs: A Gentle Plan to Radically Change the World*, Bob Briner encourages Christian to engage and shape the world with their ideas, to learn to be good enough and generous enough within our chosen talent to be "salt and light" and influence culture (p. 30-32). Since I both write and teach, this giving away written curriculum is my effort to reach out and meet a perceived need to equip others to creatively change and to transform the world with tools that build creative confidence and skills.

Creativity out of the Bible

The Bible itself, a source of my creative understanding and inspiration, is filled with beautiful examples of God creating and transforming, of God's people making a difference with divine help. I am also blessed with mentors and leaders that have challenged, supported and cared for me so that now I may forward this blessing to others.

Inspire comes from a Latin word meaning "to breathe into" ("inspire,") which was the description of the act in Genesis that gave man life. These roots in creative thinking rely on the idea of humankind being made in the Creator's image as well as the ideal of human equality. This is why I believe "everyone is creative." The Creation story, wearing a fig leaf as clothing, creative deceptions, battle tactics and business practices in the Bible, parables and proverbs, biographies and letters as learning tools—all of these form my ideas and examples of critical and creative thinking. One story in particular, David versus Goliath, is an archetype of creative problem solving and is stated as follows:

17 Now Jesse said to his son David, “Take this ephah of roasted grain and these ten loaves
of bread for your brothers and hurry to their camp. 18 Take along these ten cheeses to the
commander of their unit. See how your brothers are and bring back some assurance from
them. 19 They are with Saul and all the men of Israel in the Valley of Elah, fighting
against the Philistines.”

20 Early in the morning David left the flock in the care of a shepherd, loaded up and set
out, as Jesse had directed. He reached the camp as the army was going out to its battle
positions, shouting the war cry. 21 Israel and the Philistines were drawing up their lines
facing each other. 22 David left his things with the keeper of supplies, ran to the battle
lines and asked his brothers how they were. 23 As he was talking with them, Goliath, the
Philistine champion from Gath, stepped out from his lines and shouted his usual defiance,
and David heard it. 24 Whenever the Israelites saw the man, they all fled from him in
great fear.

25 Now the Israelites had been saying, “Do you see how this man keeps coming out? He
comes out to defy Israel. The king will give great wealth to the man who kills him. He
will also give him his daughter in marriage and will exempt his family from taxes in
Israel.”

26 David asked the men standing near him, “What will be done for the man who kills this
Philistine and removes this disgrace from Israel? Who is this uncircumcised Philistine
that he should defy the armies of the living God?”

27 They repeated to him what they had been saying and told him, “This is what will be
done for the man who kills him.”

28 When Eliab, David’s oldest brother, heard him speaking with the men, he burned with
anger at him and asked, “Why have you come down here? And with whom did you leave
those few sheep in the wilderness? I know how conceited you are and how wicked your
heart is; you came down only to watch the battle.”

29 “Now what have I done?” said David. “Can’t I even speak?” 30 He then turned away to
someone else and brought up the same matter, and the men answered him as before. 31
What David said was overheard and reported to Saul, and Saul sent for him.

32 David said to Saul, “Let no one lose heart on account of this Philistine; your servant
will go and fight him.”

33 Saul replied, “You are not able to go out against this Philistine and fight him; you are
only a young man, and he has been a warrior from his youth.”

34 But David said to Saul, “Your servant has been keeping his father’s sheep. When a lion
or a bear came and carried off a sheep from the flock, 35 I went after it, struck it and
rescued the sheep from its mouth. When it turned on me, I seized it by its hair, struck it
and killed it. 36 Your servant has killed both the lion and the bear; this uncircumcised
Philistine will be like one of them, because he has defied the armies of the living God. 37
The LORD who rescued me from the paw of the lion and the paw of the bear will rescue
me from the hand of this Philistine.”

Saul said to David, "Go, and the LORD be with you."

[38] Then Saul dressed David in his own tunic. He put a coat of armor on him and a bronze helmet on his head. [39] David fastened on his sword over the tunic and tried walking around, because he was not used to them.

"I cannot go in these," he said to Saul, "because I am not used to them." So he took them off. [40] Then he took his staff in his hand, chose five smooth stones from the stream, put them in the pouch of his shepherd's bag and, with his sling in his hand, approached the Philistine.

[41] Meanwhile, the Philistine, with his shield bearer in front of him, kept coming closer to David. [42] He looked David over and saw that he was little more than a boy, glowing with health and handsome, and he despised him. [43] He said to David, "Am I a dog, that you come at me with sticks?" And the Philistine cursed David by his gods. [44] "Come here," he said, "and I'll give your flesh to the birds and the wild animals!"

[45] David said to the Philistine, "You come against me with sword and spear and javelin, but I come against you in the name of the LORD Almighty, the God of the armies of Israel, whom you have defied. [46] This day the LORD will deliver you into my hands, and I'll strike you down and cut off your head. This very day I will give the carcasses of the Philistine army to the birds and the wild animals, and the whole world will know that there is a God in Israel. [47] All those gathered here will know that it is not by sword or spear that the LORD saves; for the battle is the LORD's, and he will give all of you into our hands."

[48] As the Philistine moved closer to attack him, David ran quickly toward the battle line to meet him. [49] Reaching into his bag and taking out a stone, he slung it and struck the Philistine on the forehead. The stone sank into his forehead, and he fell face down on the ground.

1 Samuel 17: 17-49 (New International Version)

In looking for creative thinking, it is important for me to note several things in this story. First, David was doing something else before he took on the task of fighting Goliath, but recognized that he could do this other task that others would not. He asked for more information about the problem facing the soldiers and did not perceive the impossibility of the task as the other soldiers. He faced opposition from someone close to him, in this case, an older brother. While the brother questions his motives, which is important to any creative problem solving endeavor, David persists despite discouragement and open disbelief.

David shows the creative ability to see skill crossover in very different tasks. While killing lions and bears take improvisational fighting tactics, it is still a stretch to apply these to a seasoned warrior who has fought and killed men. David, however, still makes that connection and has a base of faith in God and himself to build confidence.

King Saul, however we might question his motives of sending someone to fight in his place, acts as an encourager to David. Through desperation, guilt or even belief in David, he symbolically and pragmatically gives his own armor and sword to David. This is the key moment to creative thinking—this is also a pivotal moment in my own applied creativity course.

What youth could resist trying on the armor of a king? But what happens next is a vital lesson in creativity. David removes the king's armor and sword and uses his own resources. He may have felt encouraged by briefly wearing the royal armor before his upcoming battle, but he did not try to fight with unfamiliar tools.

I believe we "try on" creative thinking tools like the royal armor and sword as if ours, a "one size fits all" for creativity. We "try on" other people's ideas, especially those of people we admire, without getting familiar with the ideas. We can expect them to work as well for us as the person whom they were originally made to fit. We may then wonder why they do not work for us and yet still not let go of them. While we can "try on" tools and ideas as David did, we must also have the insight and courage to discard them if they are not right for us or the situation we face. We have to recognize when we are trying to hold onto the king's armor too long instead of drawing inspiration from it in order to be able to use our own. We even can "wear out" ideas if we keep them too long or use them too often without changing them or being changed by them.

David also displayed creativity by not using the same techniques as he claimed for killing lions and bears. He talked about getting close to the animals to kill them, but he did not use a tactic that would not work with a savvy soldier who had a bigger reach and better weapons (as well as a shield bearer). David acted quickly and used a slingshot, utilizing surprise and the lack of preparation and respect of his opponent. Creative thinking is adaptation to the situation, using what is known of the other person and creating an advantage with decisive action. The world faces giants—yet these problems are not impossible when perceived through a lens of faith or, for the secular, of creative confidence. Creative problem solving and creative expression are not the only answers to all that needs done to make the world a better place, but something I have to give and just as importantly, something I see in others to be responsible for sharing too. Several factors hold people back from seeing themselves as creative. The theories that divide creativity into "more" or "less" (and that discriminate and devalue someone who is not "original" or "useful") need to be refuted. In the next section, I will share my appreciation of many of the ideas of creative theorists and discuss some concerns that I hope to address with creative alternatives of my own.

My New Theory of Origins and Influences of Creativity

The four chapters of this thesis will model the process of acting within each kind of creativity. These primary references are the perceived and acknowledges sources, the "priming" and "hints" for my invention phase of a new idea. Since creativity can be defined as "idea combining or bisociation of ideas" (Koesler as quoted by Davis, 1999, p. 118), I will use the following pages to adopt some parts of other creative theories and adapt some others to finally bring together and create this different perspective on how to define and teach creativity. Because I am utilizing pieces of many theories, I included a chart (p. 46) to show which concepts I adopt and which are original.

A General Look at Applied Creativity

The name of my course refers to the idea that creativity is something that needs to be used and done purposefully. It is not original; there is an "Institute for Applied Creativity" at Texas A&M University (Sawyer, 2012, Appendix G). Some might see the term "applied creativity" as oxymoronic, but other terms that struggle to bring together both the critical and creative thinking such as "critical creativity" and "innovation" have their own drawbacks.

The phrase "Critical creativity" (Ragsdale as quoted by Marrapodi, 2003, p. 21) sounds judgmental or implies a need only in dire circumstances while "innovation" focuses on current values and usefulness of a creative product. This might be detrimental if a creative person or idea is not recognized or nurtured in their time and place. Creativity only viewed in the business sense of innovation, would discourage current creative pioneers might then be discouraged in the same way that Edgar Allen Poe, Emily Dickinson or Vincent Van Gogh were discouraged by a

lack of timely recognition or reward.

The second part of my curriculum title, "tools toward transformation," utilizes a constructive look at creativity when often it has been seen as destructive or a required breaking of the rules. Tools imply making something and being equipped for a task. The ideal of transformation is very intentional, but using "toward" allows the idea that this is something we might always be moving to become rather than stopping when we think we've gotten there.

Perception Based Creativity Including Unconscious Processes

I believe everyone is creative. While my views are certainly influenced by a faith that believes in the equal value of people and creativity as being in the "image of the Creator," I have other compelling reasons to see creativity as an inherent, dynamic quality that can be both enhanced and taught. I believe creative thinking takes intentional work even if it can happen with unattributed "a-ha" moments. This is not inconsistent with my faith since I believe these "a hint accessed" moments can arise from divine inspiration. Yet if I state everyone is creative, I have to look at why we see children as our examples and how creativity can be found in populations traditionally considered "less creative." I must look at creativity in new ways when I engineer my curriculum.

Considering the dichotomy of unconscious and intentional creativity, both have elements in common. The person who "sleeps on a problem" and the subject who do not recognize the cues from the researcher's priming have each achieved solutions that they cannot attribute to a source. Children as a population are also often unable to explain where they get their ideas. Yet, due to their openness to learning, they can be very perceptive, leading to greater creativity. I believe that the fact that mind work is not observable from the person doing the thinking

internally should not preclude the possibility that a more intentional thinker might be able to harness more ideas even when "incubating" or "sleeping on it."

Recent research on the internal and external factors contributing to creativity help explain how intentionality and persistent work to be creative do have successful results even if there is still debate whether creativity can be taught or merely "enhanced." "Motivation, inspiration, gestation and collaboration are key elements" (Saebo, et. al, 216 quoting Fisher) in creativity. Encouragement empirically boosts performance and factors into self-efficacy (Jackson, 2002, p. 243). By using written and verbal encouragement as a deliberate method, this environmental positive stimulus can then promote the risk of acting creatively over the known benefit of the status quo. In other words, creativity seems tied to affective domains which certainly still agrees with the role of the unconscious in some facilitation or resistance. However, the studies showing that indirect factors such as relaxation can improve creative output might be linked with studies that suggest the teaching of creative skills improves creative output.

Feuerstein, as an inspiration, states that intelligence is not fixed and "anyone can be taught-or mediated—to learn how to think" ("The professor,"). From his faith based assertion in the value of each person, he focuses curriculum on a process based approach rather than content. His "mediated learning experience" relies on "organizing stimuli" to "acquire behavior patterns, awarenesses, and strategies that in turn become important ingredients in the capacity to be modified by further direct exposure to stimuli ("Mediated learning experience,"). Teaching a perception-based awareness of the stimuli that sparks our innate creativity parallels some of the ideas and techniques already proven for other cognitive functions by Feuerstein. But the barrier to creative acquisition not just due to the lack of awareness, but also is in part due to the tradition of how we value and evaluate creativity.

Creativity as a General Domain and Not a Hierarchy

I appreciate Howard Gardner whose theory of multiple intelligences helped justify activity based education and reduced discrimination against students who were perceived as less intelligent due the practice of only testing verbal and logical intelligences. However, his view of creativity is not a horizontal separation like his view of multiple intelligences, but is actually a vertical hierarchy that does discriminate. The problems I see in a differentiation of "big C" and "little c" creativity is that relatively few can ever achieve the "big C."

If one must master a domain in order to pursue the greatest creativity and it can take up to ten years to possibly do so (Gardner, 2011), what motivation is there to persist for the person who chooses the wrong domain or who can never become one of the very few celebrated for domain mastery? Gardner does not even embrace the possibility that creativity can cross over to other areas, so in essence, a person starts from scratch each time within a domain by learning a different kind of creativity, an inefficient and untenable process toward achieving that unlikely "big C" title. His empirical research does chart a typical pattern for creative development, but rather than modeling our creative path to this, why not break the rules and disrupt these patterns as a creative response? I agree with Gardner that there is everyday creativity and that some will achieve great creativity. I do not propose that we remove the "big C," only that we encourage the possibility for more to achieve it with a different approach, one that uses multiple creativity in the same horizontal (but equal) separation as his groundbreaking model for multiple intelligences.

Creativity with Intelligences

Sternberg's three branches of creativity does come closer to an ideal, but utilizing

government structure as a model for creativity only appeals to my ironic sense of humor. He also lists other factors as equally important which become problematic when trying to implement a curriculum. Motivation, for example, is extremely important and can be encouraged, but his three intelligences are equal to this among other factors and this would require equal teaching time as well. Creativity is linked with intelligence basically in order for me to assert the dynamic, learnable and changing ability of the mind to grow skills and abilities. Whether one is a subset of the other or not does have implications, but practically, they are related to each other without the need to classify them at this point.

Creative and Critical Thinking is All Thinking

Just as I do not wish to be diverted or blocked by the connections and associations between creativity and intelligence, I want to avoid the trap of dividing thinking which has both elements in any cognitive, metacognitive or reflective practice. Bailin, for me, advanced some wonderful argument that display the balanced approach as follows: "Creativity is not merely a question of generating new solutions to problems, but of generating better solutions, and is thus not a matter of arbitrary novelty or random invention, but involves change which is effective, useful, and significant…Critical thinking is, thus, intimately involved in creative production" (1987, p.25). The biggest difference is that I feel that she has an over-reliance on "innovation" (1987, p.25) as a term that best suits a combinatory approach and belief in thinking. In my own pursuit of "metacreativity," it would be interesting to explore thinking about creative thinking creatively. Some new ways to bring imagination and examination together might include reflective activities done as collaboration or the experimental implementation of each thinker's "pledge of contradictions" (Szteiter, 2009, p. 133) as a means to explore paradoxical thinking.

5 Ps as 4 Cs

Creativity can be categorized as five Ps: the creative person, process, product, press (environment) and persuasion. Perhaps these five components might be equally recognized in a team or individual with some other terminology. It is possible to make some connection to the four components of a team if we start with the creative person and see the other four "Ps" within that person to be creative. Products might be seen as "creation," production might be "construction," press might mean "calibration" and finally persuasion could be "constituency connecting" (the people skills for self and within a community). We might also make connections to other creative processes and understandings. DeBono describes six "thinking hats" as a variety of perspectives in which to "focus or re-direct thoughts" which are as follows: the white hat representing fact finding, the yellow hat representing positive optimism, the black hat representing negative judgment, the red hat representing feelings, the green hat representing creative alternatives and the blue hat representing control ("Six thinking hats,").

Instead of DeBono's six hats as separate functions in the creative process, the creative person might have four occupational hats to wear at one time and then focus on those perspectives at particular times in the creative process. The personification of the types of creativity within each person or team might be a way to consider "wearing many hats" at the same time during the creative process.

In essence, as much as we might like to defer the "blue hat" until the end, a little control upon the fact finding "white hat" might not be such as bad thing, if using reflection as a barometer for the right balance. It might be all right to connect DeBono's "red hat" of feeling with the "green" one of creativity, a "stop and go" processing of affective imagining. The "yellow hat" for optimism might be striped with the judgmental "black hat" to work between the

positive and negative points of an issue. We might add another striped hat with purple (royalty) for standing apart and orange (diplomat) for fitting in. Just as separating critical thinking from creative thinking when they are not opposed is an "either/or" unnecessary tradeoff, focusing too much on one perspective alone can be monochromatic approach as well.

While Von Oech has suggested the four roles of explorer, artist, judge and warrior (1986, p.15), I find problems with these personifications, although I agree with his idea of this "team" within each person. First I would switch the first two team member roles so that the artist finds ideas while the explorer as "pathfinder" implements them. His creative process is finding, re-forming, judging and implementing an idea (p. 15). In my process though, I see the sequence as creating, implementing, refining and presenting an idea.

Even if I adopt Von Oech's roles in my sequence such as artist, explorer, judge and warrior, I still have concern. The term "artist" implies creativity in fine arts and I prefer to include people who may not view themselves as creative in that way. The term "explorer" implies meandering or wandering to discover, so those who are goal oriented may be less inclined to identify with this creative motif. The judge is also a stereotypical view of creativity. Judging has the connotation of determining "good and bad," but this is not the kind of judging based on the ethics of creativity, but on whether creative thinking is "good or bad" based on its usefulness or if it can provide personal gain (p, 15). Von Oech's "warrior" also has negative implications. If one must fight for ideas, then there is, as he acknowledges, a perceived battleground or competition (p. 12) in which there are winners and losers. Some will not engage in creative pursuits if they have to compare or prove themselves to others.

For the four kinds of creativity, these personifications can be seen as the following "occupations." The first one, the "inventor," is usually seen as "most" creative in society

because generating ideas is usually emphasized in problem solving. The term "inventor" instead of "artist" invites the more practical person to be creative, where "artist" might not. If comparing the inventor to DeBono's "hats," this would be the "red" and "green" hat combination—passion with creativity while comparing this to the different P's of creativity, the idea is the *product*. Because this kind of creativity is already greatly celebrated and studied, I will focus on the other three to explore their roles in us.

The second most prized type of creativity is usually the execution or *process* skill—metaphorically the "pioneer" who goes "from point A to B," or the one who gets the job done. The pioneer is like an explorer with more intentional purpose. Because there is a tangible outcome, "pioneering" can be considered a more desirable skill, although I will argue that all four are present in each individual and team, and must, as systems thinking suggests, be in balance. Creative producers, those pioneering "dreamers that do," are admired for persistence or work ethic, but they must also maintain creative problem solving in order to make an idea visible. This is akin to the combination of DeBono's yellow hat of optimism and black hat of judgment. Many times these producers are not given as much credit as the inventive "idea person," yet without the creative adaptability to pursue the use of an idea, the "idea person" would not create anything.

Judgmental skills—metaphorically the role of the engineer—is a quality to be cultivated, though it is generally viewed less as creative thinking and more as critical. I would employ the "blue hat" suggesting control with the "white hat" of facts to align with DeBono's process. This ability to regulate and take care of the details to make the idea productive might be facilitated by the "P" of *pres*s. Only if a person has open and effective surroundings can this mode of creativity be recognized, appreciated and increased. By making the role an "engineer" rather

than Von Oech's "judge," the process suggests creative work even in critical assessment, a more positive, active role than of the person sitting on the bench.

The final kind of creativity is the one akin to *persuasion*. These people skills, unifying of self and others—metaphorically the role of the diplomat—are all aspects of each person, though, like multiple intelligences, personality and experience may develop a preference for one over the other three. I find this occupational representation more acceptable than the "warrior" figure in Von Oech's model. At this point I add another "hat to the ring" by including the purple (standing out) and orange (fitting in) model. Though in DeBono's process these might not be necessary when considering an idea's viability, it helps my model of the "diplomat" working as an individual and then as part of a group to get an idea accepted and recognized, and then used and valued by others.

Individual with Collaborative with Individual Creativity

As noted earlier, I am drawn to collaborative creativity as support system and method of testing and sparking individual creativity. This source of encouragement and accountability offers the individual the creative environment necessary to develop and explore not only personal creativity, but those of others as well. Collaborative creativity in a group can transcend the individual. There are examples commonly given in jazz and theater that suggest that corporate creativity "emerges" as an "improvisation innovation," giving "a collaborative product no one person could create on his own" (Sawyer, 2007, p. 68). Using "clustering," a networking group can form and have "webs of information flow freely" with open innovation in which no one company or person owns an idea. This building of innovation with "frequent interactions" and "multiple discoveries" allows a sense of team to emerge (p. 191-202).

"Real teams" work best with "a common purpose, specific performance oriented goals and a commonly agreed upon working approach" (Katzenbach & Smith, 2003, xvii). High performance teams also have "a higher degree of commitment and intensity" as well as "a genuine, mutual concern for each other's well-being that often transcends the life of the team" (p. xxii). Since the supportive aspect within the group of creative individuals such as the "Inklings" is as apparent and caring as that within the "high performance teams," this provides another interesting combinatory dynamic for individual and collaborative creativity.

If a group becomes more creative by alternating creative activities between individuals and the group (Sawyer, 2007, p. 73), then a caring and committed "real team" might foster and develop even greater creativity if they choose to alternate between supporting individual creative endeavors and then working together collaboratively on team creative products. Open ownership could benefit their circle as well as society as a whole. This cyclic approach could return to the individual as learning and relationship building continues in this multiple, evolving and changing creative partnership approach.

Organization of Creativity

The PSIU components that I adapted as the four kinds of creativity are used in the management of organizations. In the "life" of an organization, there tends to be a cyclic emphasis on which one of the four components is the most needed to revitalize and re-adjust the momentum to a positive upswing (Sisney, 2011). In addition, the view of individuals as personifications of one of the four components requires managers to respond to "Ina Innovator" differently than "Sam Stabilizer" (Sisney, 2011).

Admittedly, like multiple intelligences, we may be drawn by preference or situation to

one of the four components over the others. However, to grow in a systematic and sustaining way, there must be incremental work on all four kinds of creativity, not just the one we favor or currently need. This is a proactive, rather than a reactive approach which I believe also helps the individual, team or organization.

Implications for Teaching Four Kinds of Creativity

Using a multiple creativity approach like multiple intelligences would require education and learning strategies to develop all four types of creativity. Yet even though many strategies are available for idea making, there are fewer that teach putting the ideas into action. Often it may seem easier to create ideas than use them, but persistence and motivation might be greater if this component was also celebrated as much as the fluency and originality of the idea underneath. In order to teach this as a type of creativity, testing ideas as a group could illuminate the creativity needed as much in producing an idea as creating it.

Because critical and creative thinking skills are intertwined, the creative process and quality of "regulation" or "stabilization" might be seen as more a critical thinking skill at first glance. In the third kind of creativity, the ability to engineer the structure and details to ensure that the product has worth and that the process is efficient cannot be understated. Few groups appreciate the one person who constantly questions and re-confirms the plan, but without this monitoring and assessment, the idea ultimately may fail. Likewise, the individual who ignores the practical "nuts and bolts creativity" to celebrate the euphoria of the idea or the adrenaline of pursuing it risks losing much in the attempt to show creativity. Creative problem solving can help by drawing upon the systematic discipline of making the idea and the process doable, again as creative work that can be learned and applied.

The final component of a team in creative process and by extension of systems thinking, the creative person, is that of the diplomat. By reconciling differences and tensions within the other three areas, the creative work of unification allows the balance to be maintained between all four kinds of creativity. Activities to teach this include intrapersonal and interpersonal reflection on how to incorporate and balance the four types of creativity.

Ideas are fun, they can be toys, but in this instance, they are tools that inspire the inventor to take the next step toward becoming a pioneer. Implementing takes a different kind of work, risk and mindset, yet this creativity has its own rewards by seeing a dream into reality, by learning from the experience. Yet the work is not done. Refining an idea has merit in making an idea even better and finally bringing people together to share and affirm the idea transforms creativity from an individual endeavor into a fulfilling collaboration.

Chart 2: Creativity Theory Ideas Chart

CREATOR	MY ADOPTION	MY ADAPTION	MY CREATION
Bailin	Critical and creative thinking are inseparable	Innovation is not the only or best synonym for creativity	Applied creativity refers to both innovation and purposeful self-actualization
DeBono	There are six thinking hats we can use to promote creativity	These hats can be combined in pairs to balance different kinds of creativity	There can be two more colors to be paired up into one more creative "hat"—purple (standing out) and orange for (fitting in)
Feuerstein	Anyone can be taught or mediated to learn how to think; everyone is valuable	Anyone can be taught or mediated to learn how to think creatively	Mediated learning experiences can be focused on creativity
Gardner	Multiple Intelligences are part of creativity; there are different kinds of creativity	Multiple intelligences are not domain specific and can have crossover value	Multiple creativity can be horizontal instead of vertically aligned
Parsons	There are four parts of a Functional System and individuals are a system	These four parts explain creativity as well as management style and organizational life cycles	These four kinds of creativity can be a process and like fractals, have the four parts as a process in each component of the four
Sawyer	Creativity comes from heightened perception; groups need alternating activities that include alone time	There also are some unexplained unconscious processes to include; Groups need to alternate between projects together and encouraging individuals in their own passions	To explain perception based creativity, the "a-ha" moment can be an acronym for "a hint accessed"
Simonton	There are 5 Ps to creativity	These can be four subsets within the creative person	A sixth P to keep creativity from being too goal oriented is "play"
Sternberg	Intelligences are interactive with creativity; other factors such as motivation are equally important	Intelligence and creativity do not have be defined as to which is dominant	Intentional encouragement as a teaching tool helps build and sustain internal motivation
Von Oech	There are four kinds of creative personas inside each person working as a team	The four occupations suggested need to be put in a slightly different order	The four occupations work better as inventor, pioneer, engineer and diplomat

Note: "Organized Summary" as suggested by Caitlin Mccormick

CHAPTER TWO

PIONEERING A CREATIVITY CURRICULUM DESIGN

Classmate Caitlin McCormick coined the term "foundwork" as a serendipitous combination of "foundation" and "groundwork" (personal communication, March 26, 2013). This coined term indicates that the foundation and groundwork can be a continuous construction in order to remain creative through teaching creativity. By laying the current "foundation" and "groundwork," my "foundwork" is to keep reflecting upon the ramifications and results in order to add laterally and in depth to the base that builds my learning while teaching.

In this chapter, I share the chosen tenets and structure underlying the teaching of the four kinds of creativity. A few key ideas are repeated from the first chapter in order to connect the idea to implementation. I share some personal experiences in order to elaborate on my position and perspective before I describe the general framework of teaching this curriculum under the "Teaching Applied Creativity" section. This section includes adapted or created ideas unless credited otherwise.

Theoretical Teaching for Four Kinds of Creativity

Teaching creativity requires creative teaching and learning. The teacher should model creativity in a variety of lessons that use multiple intelligence activities, appreciative inquiry, and skills practice within the four kinds of creativity (invention, implementation, refinement and constituency connecting). At the same time, the student needs the opportunity to become a better self-directed learner. I believe creating an environment for creative exploration and expression starts with the teacher remaining a student. Being willing and then able to learn from

others models humility which is one attribute of creativity. The horizontal relationship within the multiple creativities must be mirrored in the horizontal relationship emphasis in the classroom.

Perception-Based Creativity

One of the key factors in creativity is identified as environment, both internal and external. As noted earlier, intentional encouragement can be tracked and shown to increase academic scores (Jackson, 2002, p. 251). Research shows that creativity requires a supportive background (Sternberg, 1999, p. 328). Even as we need to be aware of our sources of inspiration in perception based training, I contend that we should be aware of and facilitate sources that affect our perceptions of ourselves as creative people.

This requires that the instructor not only model encouragement, but give opportunities for the students to practice this skill authentically and consistently. As classmate Mary Lou Horn suggested, it is important to see encouragement as challenging someone to become better as well as praising him when he does (personal communication, March 30, 2013). The type of encouragement, whether support, praise or challenge, also demands the awareness of the outcome goal and effect. If encouragement is for finishing a task over doing it well, then the student may meet the goal, yet focus on deadlines over quality. Matching which of the three encouragements the student needs or prefers is as important as the method and timing.

Creative teaching means learning about the student and yourself in order to connect in the best way possible. In the four R's model of "cultivating collaborators" (Taylor, 2011), respect is essential and is aligned with "connect" in the four "interconnected aspects of learning." I believe respect must be for the individual, then the peers and teacher. For the

teacher and students, showing and requiring respect for thought diversity within the group must be consistent.

The second "R" is "risk." To be able to elicit personal responses and reflections, one of my teaching preferences is to use and study the messages within stories. By stories, I mean personal experiences and the sharing of biographical information that helps explain the "why" of a person's actions. Taylor connects "risk" with "probing" in the learning cycle in which each element "fuels" another (2011). One of the blocks in creative thinking is making assumptions (Von Oech, 1986, p. 100). In order to keep personal experiences from being misused, as a creative tool, I have to risk sharing my own stories and then "think out loud" and explain the meaning I find in my own. The greater risk then is to allow students to offer their own view of meaning based on personal experiences, even reinterpreting mine. A dialogue that explores views without insisting on the "right" interpretation can be creative, yet risky in not being able to control the direction.

Taylor's third "R" undergirding imaginative exploration is "revelation," based in part on the learning required in "reflection" (2011). Because the group has maintained respect, taken risk personally and as a group, it is possible to generate creative understandings of each individual and of the group as a dynamic whole. The "revelation" where "new insights emerge" may be unique to the individual or group, although naming it as a step implies it will happen in the process if the first two "R" of the cycle are present. Recording the revelation of the discussion outcome leads to the last "R."

"Re-engagement" is the link in the 4 Rs which brings closure to the revelation and seeks out new avenues to begin the process again. Taylor has paired this with the last aspect of learning which is "creating change" (2011). In creative teaching, this may be the hardest link to

emphasize. Many lessons end and move on, but re-engagement indicates some "coming back" to engage a topic so the transition between what seems finished after revelation and the actual effect the new learning must even allow re-visiting and re-interpretation of old learning.

Within CCT, there has been an evaluation tool called "plus/delta"—that is, name one thing that is appreciated and one thing to be developed further. The 4 R model can be used like this plus/delta as an important evaluation tool to hold the teacher, curriculum, classmates and each student accountable. It also reinforces the "four" as a number, even if it does not specifically line up with my four kinds of creativity. Through asking the students to assess themselves, their classmates, teacher and curriculum according to how respect, risk, revelation and reengagement has been shown, a much richer evaluation of the process and products in the classroom is possible.

Creativity in the General Domain

In order to introduce creative thinking tools that can be applicable to any area instead of just the fine arts, the assessment should have other standards besides originality and fluency. Best asserts "the possibility of creativity requires the learning of techniques, of objective criteria and a foundation from which to be original" (1982, p. 293). Four kinds of creativity suggest four different outcomes to observe and analyze.

From CCT assessments there is a method known as "GOSP" which stands for "Grab, Orient, Steps and Position" (Taylor and Szteiter, 2012, p. 94). These correlate with the four kinds of creativity. Because of this noted connection, I can use the theory of the four kinds of creativity to assess the creative product objectively as follows: "What is the idea? (Grasp)" "What is the implementation method? (Orient)" "What are the steps of refinement? (Steps)" and

finally "What is the convincing or constituency connecting element? (Position)" Like the 4 Rs, this presents a four quadrant rubric, thus allowing students to self-evaluate their creative thinking tools.

While I can mimic the participation elements of CCT graduate courses, other self and group evaluations are necessary in order to present creativity across domains and disciplines. For me, the most important is an examination of values and ethics. When I wrote curriculum for Group Publishing, I received assignments that included a template and general guidelines. One guideline warned authors to be aware of the "unintended lesson." As an example, we were discouraged from producing mazes and word finds as activities, because this might imply that "finding" God was elaborate or difficult. Unfortunately, even those who teach creativity may unintentionally reinforce thinking of one "right" answer.

Lateral thinking exercises, for example, enhance creativity by emphasizing changing perspective. DeBono states that they are not meant to have rightness like vertical thinking, but richness (1973, p. 39). Yet if you remember the puzzle with nine dots set in three rows and columns you were to connect with only four straight lines without lifting your pencil, you might also remember the usual answer. How much deeper lateral thinking could go though, if after the first answer, you were asked what connecting line could be used and how to do it if the nine dots were actually nine straight pegs or nine holes in the ground?

Still other means used to "prove" creative thinking focus on your "insight" and ability to make connections by giving three words such as "cracker," "fly" and "fighter" and then asking which one word these three can have in common. Since the "right" answer is "fire," (Sawyer, 2007, p. 95) it is not a true test if culturally a person rarely uses firecrackers or calls "fireflies" "lightning bugs" instead.

In my personal quest for creativity, I have read some misnamed "lateral thinking" books and memorized the "right" answers, but it hardly enhances creativity to allow only one person the chance to show it instead of inspiring it in others. "If a teacher's own creativity is not applied with clear ethical guidance and learning expectations, creative teachers may diminish the creativity of others around them, or in worst case do great harm, either to students or other teachers" (Craft as quoted by Saebo, McCammon and O'Farrell, 2007, p. 209). I must be aware of my intentional and any "unintended" teaching of my own perceived "right" answers, but in acknowledging this, I hope to practice more self-awareness and self-adjustment.

Although there has to be some domain specific knowledge base to provide a framework for creativity (p. 208) or to transfer skills, Csikszentmihelyi "believes creative individuals are boundary crossers and see relationships between different things than none of the rest of us can see" (p. 208). This "boundary crossing" in domains must also be examined in the application of "good and bad" creativity as well. Some of the stereotypes of creativity are the "breaking of rules" and "crossing boundaries" in unethical ways. To address this and to monitor the effects our creative actions have on others, my proposed course includes a "giving back" and "paying forward" element. This course includes an ethical responsibility and service expectation. This outward focus is not meant to take away the self-actualization purpose for creativity; it is an intentional effort to develop awareness and empathy as creative processing which can enhance self-actualization. Philanthropy is a practical means to ensure that creativity consists of some consideration of who benefits most.

Creativity without Hierarchy

My statement "everyone is creative" is brought into the curriculum. In the past, sources of creative inspiration have been children for their imagination and creative "stand-outs," those rare individuals who are able to master a domain in a transformative, original way.

Creativity does not exist just "out of the box." A great deal of creativity exists "inside the box" as well. Boundaries and rules to fit creativity into may seem too confining, but there are also inspirations to be found those we might deem "less creative" in the traditional sense. The elderly, illiterate and autistic populations, for example, make contributions that display the creative methods to fit in or cope with problems in their environment.

The argument might be made that it is not creative to find ways to handle perceived memory loss, to navigate a world without reading or to act differently than most to the same stimuli. However, the definition of creativity includes doing something in a nontraditional or an unusual way. If looking at different ways to adapt to the environment need validation as being "useful," then these demographics still offer innovation. Their creative process might aid others if the standard methods of assessing creativity were not barriers to our perception of their capacity.

New methods for handling memory problems can translate into help for those with sudden mental disabilities due to accident or stroke. Someone coping with a foreign culture and language can use the strategies learned from a person who cannot read. A person who has received a sudden enhancement of senses from medical procedures needs to understand how the behaviors of autistic people help alleviate the overload of environmental stimuli and how these might be adapted to his situation.

Yet because some groups as a whole are not recognized as "creative" people, their potential is not developed. Teaching creativity to these populations requires adjustment in thinking. Even though the elderly score "consistently lower than younger adults on several of Guilford's creativity factors" some explanations include the "anxiety in learning," dislike of "ambiguity" and their own "measurement of creativity based on the immediate environment rather than against larger exterior standards" (Jones, 1980, p. 18). Yet when allowed to work at their own pace, their learning performance comes close to that of younger adults (p.17). It is harder still to find any efforts to engage the illiterate—especially in fine arts creativity. Despite this means to build confidence, illiterate students are not given the chance to express themselves, although their "writing" is more "free from clichés (Ormond, 1940, p. 4)" because they have not encountered them in reading. Even if there is a proven correlation to a particular domain as a possible creative outlet, societal perceptions may leave considerable potential "unexploited" (Heaton, 2009, p. 1446). Autistic children, for example may be drawn to the structure of music, have pitch analysis skills and motivation to listen, yet are not given instruments to learn skills further (p. 1446).

Judging creativity as original and useful to society is still valid, yet by bringing in a broader perspective to look for it more people can have access to creative training and expression. This is not the "feel good" idea for celebrating creativity. There are those who will achieve more who can be acclaimed and studied. The focus here is to see that a person can measure and grow their four creativities through training. Learning has a purpose. It is not enough to say "everyone is creative," but with practice, "everyone will be more creative" too.

Intelligences Creativity

To find creative ways to teach, I intend to return to Howard Gardner's multiple intelligences as a base for learning preferences. My curriculum will feature activities to address self-identified personal strengths and also build upon the lesser developed intelligences. Although I use all domains, it is important to acknowledge my focus on both intrapersonal and interpersonal intelligences to implement and achieve the learning outcomes.

I will not attempt to eliminate or diminish the natural creative abilities that may be displayed through the products in the class. It will be possible to recognize and learn from those who have some domain mastery as Gardner describes. Students who take a creativity class may already see themselves as creative and to desire an outlet to express their process. This class is meant to be more like a rehearsal that emphasizes that "deliberate practice" can increase creativity (Sternberg, 1999, p. 234).

All Thinking as Creative and Critical

Just like metacognition, critical thinking is equally woven into the curriculum under the "applied" aspect. To do this, the tools I draw upon are not just from a critical thinking course I transferred into CCT, but also from my own faith background. One of techniques to utilize is the four pillar method from John Wesley, the founder of Methodism. In an adaptation, a topic (rather than theological point) is considered based on a reading, tradition, personal experience and reason ("Glossary: Wesley quadrilateral,"). Asking what each of the four "says" about the topic allows comparison and awareness of the influences from each side, although in Wesley's "quadrilateral," there is a hierarchy instead of an equal consideration of all four.

By incorporating methods that are not taught in CCT, there is a diversity brought into the program that can complement some of the eastern philosophies and methods that students already receive in their education. Since only up to thirty-three percent of identified "religious" people attend church regularly ("How many people," 2009), creative examination tools utilized in my background of scriptural analysis are also not likely to be part of many students' backgrounds.

Individual with Collaborative With Individual Learning

Even as the flow of activities alternates between individuals and groups in order to spark creative responses, the teaching structure is not the only consideration within this concept of creativity theory. "Values play a role in developing a creative career" (p. 332), yet when judging creativity ethics in the person, differentiating the whether a lack is within the person's "deficiencies" or in response to "culture and context" is to be analyzed to understand the basis for unethical actions rather than justify them (Baucus, Norton, Baucus & Human, p. 102).

If creativity is evaluated by both the process (means) as well as the product (end), then the stakeholders have benefits rather than the standard suggestion of creativity that breaks the rules, challenges authority and creates conflict, stress and risk (p. 101). Breaking the rules as a decision making process can be done with some reflection on the reasons, some training on the big picture and communication with those involved with this risk (p. 105). Challenging traditions or authority requires some consideration for the methods and timing. Competition and risk taking can at times be recommended in a creative environment but only if there is some accountability for the results, including the ones affecting the group.

The learning model of individual then collaborative then individual cyclic learning brings some opportunity for tool making, implementation and evaluation of the results into a process that looks at the results of the action in relation to the underlying ethics implied by the decisions before, during and after the action.

Organizational Creativity

"Systems thinking" suggests that the smaller components of a system resemble the whole picture. By staying true to systems thinking where even the smallest part must resemble the whole system, the individual must also have all four components of innovating, producing, regulating and unifying in equal measure as well. It is not enough to show that organizations and teams require these elements. The person in the organization or team must have them too.

The four part model I chose from systems thinking evolved from Parson's "functional analysis in public organizations" (Cunningham, 1977, p. 473) and is only one of at least seven organizational models (p. 463). Since this is an adapted rather than adopted idea, I only focus on it within my context rather than delve into all its history and applications within the business world.

However, this "functional approach" has opponents and some noted drawbacks to consider. It is criticized for being "too goal oriented" and "too focused on a key audience" such as the client and it defines success by usefulness to society (p. 472). To avoid these potential problems I added some elements to the curriculum. In order to address the possibility that creativity would become product or process limited and not pursued for self-actualization, I went back to the 5 Ps to find a solution since I knew there were other theorists looking for the sixth P. Three that I found were personality, performance and potential (Sternberg and Kaufman, 2010,

p. 25). However, "personality" does not overtly suggest a tangible way to counteract the overly goal oriented mindset. In addition, performance and potential may actually reinforce the goal oriented mindset. By adding "play" as my sixth "P," my curriculum can be organized and adhere to systems thinking while letting the creative person to "take themselves seriously," but not too much so.

To remove the narrowed focus on a particular audience as the other potential issue, the constituency connecting concepts include the possibility of multiple constituencies and multiple definitions of constituency. This may overcome the two noted problems in the adapted model even as the use of this in an educational setting contributes to other goals such as learning and self-awareness which may keep the creative thinker from retaining a myopic perspective.

Practical Teaching for Four Kinds of Creativity

I propose combining many ideas instead of trying to find the one "right answer" or "best" way to teach creativity. By teaching with proven models of encouragement and practicing creative skill development, I believe creativity can be enhanced and taught. My curriculum is based on teaching three concepts to use creative thinking—*adopt, adapt and create*. This is similar to other models, such as "relate, create and donate," (Shneiderman, 1997, p.1) but addresses the three phases sequentially in the learning process.

Adopting ideas and skills is akin to copying or "trying on" other ideas like the king's armor in the story of David and Goliath. When we are inspired by a creative person or his or her creative product, we may actually imitate that creativity as if our own. To cut and paste artwork, to "borrow" a teaching idea or even to quote someone's words are all ways that we may allow others' creativity to influence our own. The important distinction is to credit the source and

recognize other ideas in our own creative work. Intentionally looking for the inspiration and then remembering and crediting the source allow the person to recognize patterns as well as the tendency to rely on preferred sources. Crediting sources maintains integrity and authenticity in the creative person.

After learning to identify the creative ideas, patterns and inspirations in the personal experience, it is then possible to adapt ideas. This is not merely fixing or tailoring an idea to suit preferences or situation. It also includes permission to mix and match concepts, to experiment with the combinations that provoke learning and insights as well as creativity. It is deliberate play. However, any adaptation used without source acknowledgement risks inadequate judgment and monitoring.

Many people are great at both adopting ideas and adapting them. Some may even excel at building on other's ideas instead of creating their own, especially if they prefer being pioneers rather than inventors. Even as the four kinds of creativity are useful in adopting and adapting creative ideas, processes and products, these four components are even more valuable in the creating of ideas, processes and products in the individual, team, organization and culture.

Going even further, creating ideas, process and product has some connection to adaptation. Ideas can be traced to inspirations much like adaptation. What makes this process different is that the person chooses from personal preferences and situations to make this meaningful and to transform the original inspiration. Creating ideas is dependent on sources as much as adoption and adaption, yet these are now very intertwined with identity to increase creative confidence and motivation. Using the analogy of "trying on" ideas like clothing, the

phases go from royal hand-me-downs to tailored outfits to designing and making the personal pattern from your own life cloth.

Teaching Narratively with Appreciative Inquiry

To model the four kinds of creativity, I use the "story" approach: examining the lessons embedded in our personal experiences and insights. This biographical approach to learning about creativity was utilized in my CCT graduate creativity class, although the persons featured often explained their views of creativity rather than allowing students to draw their own conclusions.

Because I wish to prepare students to enter the graduate program, I chose the book and creative thinking tool that I used most prior to my acceptance into the program. Michael Gelb's Discover Your Genius examines the lives of ten "revolutionary minds." It is similar to the book Creators on Creating currently used in the graduate Creativity class, except that Gelb shares his perception of their creativity rather than collecting these reflective interpretations from the actual sources. By sharing experiential stories, Gelb pulls out the creative idea or theme that he feels is important to use in our own creative lives.

The creative thinking tool I used most before CCT was Von Oech's "Whack Pack" which includes stories and metaphors that teach creative skills such as changing perspective and looking at problems in new ways. It uses indirect lessons that provide new insights as the person reviews these resources again. Using this approach enables me to actually mimic my personal experience through CCT by structuring my course to resemble a mini tour through the graduate program, except through tools and activities not in the graduate program.

After establishing respect, the risk comes in sharing some of personal stories and interpretations while listening to others respond. The revelation comes with giving students the opportunity to share and examine their own stories to find learning and values of creativity expressed within them. Moving on to re-engagement, the class synthesizes the learning in order to use and create story for not just learning, but teaching others.

Appreciative inquiry must also be a part of an activity-based learning. Activities become merely entertainment unless engaging discussions and reflections on the learning anchor the course. Asking the best questions will bridge learning that is "hands-on" to the learning that is head to heart. Appreciative questioning is that "search for the best in people, their organizations, and the relevant world around them" and "the art and practice of asking questions that strengthen a system's capacity to apprehend, anticipate, and heighten positive potential" (Cooperrider & Whitney). To achieve this ideal, I adapted techniques from the Quaker Clearness committee in which the group asks questions of the person with the problem believing that the person has the answer within and will discern it ("The clearness committee,").

This leads into individuals' question formation which systematically teaches students to ask their own questions. This "question focus" technique was pioneered for K-12 in Boston (Rothstein and Santana, 2012, p. 8) after working with adult literacy groups in New Hampshire. The results, whether working with younger or older students are as follows: students "gained a better understanding of content and greater learning, gained confidence, became self-starters, were more engaged and took ownership of their own learning" as well as "developed lifelong thinking skills" (p. 136) through "divergent, convergent and metacognitive" questions (p. 16).

Pioneering a Path in a City Setting

In order to have self-directed learners, the format I've chosen starts with teacher directed and modeled creative learning and moves into the student led and modeled creative teaching. This is done incrementally to keep the curriculum learner based because UMass Boston has the "most diverse student population in New England" ("Facts and figures,"). Over forty percent are minorities, over forty percent are first time freshmen and almost sixty percent are women ("Facts and figures,"). My concern is that this diversity, which is an excellent milieu for creativity, also has to address the possible unevenness in educational opportunities in the urban setting. While some assignments begin open ended and students are responsible for directing some of the learning time even in the very first class, students may need extra encouragement and support first before beginning to develop this ability within themselves and among their peers.

In the next chapter, putting these theories and strategies into a detailed format helps the pioneer refine the path. Engineering is comparable to tinkering and experimenting as an ongoing action research project with the teachers and students as joint participants and evaluators.

CHAPTER THREE

ENGINEERING A NEW CREATIVITY CURRICULUM

Within this chapter, the details are presented with the explanations needed to grasp the purpose and practical application of the teaching. The first portion is an italicized students' syllabus addressed to them, but the instructor should read along to understand the general ideas to implement the theory and to guide activities.

Sample Syllabus for Students

Welcome to Applied Creativity: Tools Toward Transformation

In this course, you will develop your own ideas while practicing the ways in which you can explore, use and express creativity as an individual and as a group. This class is designed to take you through three skills to enhance learning and growing creatively. They are "adopt, adapt and create." We will concentrate on each one in order in four week units, culminating with an exercise in which you teach me for the final week of class.

For each activity and assignment, I will provide at least one reason why you are learning this and how you can apply it. The important concept to remember is that you will become increasingly more responsible for determining the "why and how" for yourself and others as we go through the course.

This course is inspired by the Critical and Creative Thinking graduate program at UMass Boston. My hope is that as you are introduced to creative thinking skills you will want to explore this program. This undergraduate class is only an introduction and a gateway to so much more; it is not the end of your creative journey, but a beginning.

You will need a notebook, pens, four folders in a binder and two more required resources: Discover your Genius by Michael Gelb and Creative Whack Pack cards by Roger Von Oech. If you have any questions or need help with your assignments, please view the office hours and email contact listed on the handout of our first class.

Week 1-4 Why and How to Adopt Ideas

Why adopt ideas? Creativity comes from seeing and using what is around us. It is efficient to use someone else's ideas if they fit our needs.

How do I adopt ideas? We will work on seeing ideas in new and better ways. We will be testing ideas to see if they fit our needs.

Method to share why and how: You will need to know what you see as creative, what your class and culture sees as creative and how to talk about this for even deeper learning.

Week One: Adopting our Ideas by Using our Inspirations (Inventor)

Why am I doing this?

1. *You will study what society sees as creative to learn what you think about creativity and decide who or what inspires your creativity.*
2. *You will create a "goals and questions" contract to list what you want to learn about creativity and see if you and the teacher were able to achieve this by the course's end.*

How do I learn this?

Assignment during class: Participate in the Creative Values Activity, share informal autobiography of self, do a Think Sheet together to model some ideas, watch and discuss some

"creative" movie clips about encouragement and start your three goals and four questions contract to finish after class. Other assignments may include a "What do you see?" quiz and a four questions for the teacher dialogue.

Assignment outside class: Read two chapters from Discover Your Genius (your choice as a self-directed learner) and prepare a "Think Sheet" on each one to share what ideas were provoked from these chapters. Complete the Three Goals and Four Questions contract, sign and turn into the professor.

Week Two: Adopting Ideas by Using our Inspirations (Pioneer)

Why am I doing this?

1. *You will actively search for inspiration in order to work on perception and develop a work habit for gathering ideas to "stock up."*
2. *You will use stories as learning tools for how others implemented creativity and how you see these ideas might be adopted in your life.*

How do I learn this?

Assignment during class: Participate in the Field Trip Treasure Hunt, dialogue with guest speaker(s) after their biographical sharing time, collaborate on a team challenge using lateral thinking puzzles and opportunity based learning, discuss the "Whack Pack" deck of cards and how to use it. Other assignments might include the one word quiz and sharing the inspirations that could be brought to class for creative engineers.

Assignment: Read Beulah Louise Henry play. Prepare a Think Sheet on what ideas were provoked and what creativity tools and lessons can be learned from her.

Read all the articles from the following links and respond to the statement: "Everyone is creative" with one summary.

http://www.hgi.org.uk/archive/gristandbeard2.htm

http://onlinelibrary.wiley.com/doi/10.1002/jocb.23/full

http://books.google.com/books?hl=en&lr=&id=3zXaZqtt1RIC&oi=fnd&pg=PP1&dq=creativity+and+autism&ots=fbSVdwKrp-&sig=B4BLpmPZfWDpdSuoOXuk0JwIdrI

http://link.springer.com/article/10.1023%2FA%3A1022163403479?LI=true#page-1

Week Three: Adopting Ideas by Using our Inspirations (Engineer)

Why am I doing this?

1. *You will look for and describe creativity in the process of calibrating and refining ideas.*
2. *You will utilize group creativity to inspire your own by sharing stories and ideas that you might adopt.*

How do I learn this?

Assignment during class: Participate in the "choral" collaborative dialogue, draw quick sketches to illustrate inspirational sayings, discuss the lessons perceived from a personal narrative shared by the professor and share stories with partners in the classroom using the same process. Other activities might include the three words discussion.

Assignment: Pick five "Whack Pack" cards and use the thinking strategies on two of the cards this week. Write a reflection on the results and then prepare for next week's "adoption fair" by researching and choose two creative problem solving techniques, ideas or inspirations to share with the class.

Week Four: Adopting Ideas by Using our Inspirations (Diplomat)

Why am I doing this?

1. *You will present the ideas you have adopted in order to practice building constituency and then practice supporting a constituency through attending a CCT Open House.*
2. *You will analyze creativity objectively to match a theory rather than relying on a preference or societal definition in order to see creativity in multiple ways.*

How do I learn this?

Assignment during class: Present two ideas you have chosen for the "Adoption Fair." As each person shares, fill out a four corner assessment for each tool or concept showing what thoughts and ideas these "connect with," how these might be useful or productive, what changes or details might be needed to make it better /more efficient and what other ideas or concepts are generated from this. Discuss any questions from this exercise and offer supportive feedback to each class member. If there is time, you will begin to work together on the "Teaching to Learn Techniques" using the Gelb textbook.

Assignment: Complete a 4 R rubric for one activity as a class evaluation, attend a CCT Open House face to face or online and complete a "Think Sheet" for it. Bring one humorous joke/cartoon/item to class (inoffensive).

Week 5-8 Why and How to Adapt Ideas

Why adapt ideas? Creativity comes from adjusting and learning from yourself and your surroundings.

How do I adapt ideas? We will work on changing ideas in new and better ways. We will be testing these ideas to see when or how they our needs.

Method to share why and how: You will need to know what values and rules you have for creativity, how technology can enhance or share creativity and how the creative process is lifelong learning and participation.

Week 5 Adapting Ideas by Changing our Inspirations (Inventor)

Why am I doing this?

1. *You will study some rules and responsibilities you see for being creative and sharing creativity.*
2. *You will experiment with tailoring your thinking tools in different domains to see that creativity can be seen as applicable and equal in the four kinds of creativity.*

How do I learn this?

Assignment during class: Participate in an adapted "Quaker Clearness" questioning session in order to practice inquiry techniques, view Sol LeWitt's art work and the rules for creation and then in teams to adapt this to a kinesthetic "rule" activity. Study Jeremy Szteiter's "Thinker's Pledge of Contradictions" and discuss how these could be adapted in class and finally, view professor modeling adaptation techniques from "Whack Pack."

Assignment: Look over "Scratch" and "Xtranormal" sites and consider how to use them to share a creativity tool or concept. Submit three of your most "useful" ideas to professor and share one with a classmate for possible collaboration on a presentation for week eight. Adapt a technique such as "plus/delta," "mind map," or "GOSP" by inventing a new use, producing rules and details to make it work and explain the connections between concepts and personal life—not just where the idea came from and can be used but how to persuade others to try it too. Bring one item (saying, picture, song) to class that to you represents perseverance.

Week 6: Adapting Ideas by Changing our Inspirations (Pioneer)

Why am I doing this?

1. *You will implement some of your creative ethics and sharing the results.*
2. *You will take your inspirations from the first weeks of class and adapt them by combining or changing them in order to have more ideas to use.*

How do I learn this?

Assignment during class: Participate in a dialogue about creativity and ethics and discuss what questions, assumptions, responsibility and paradoxes occur. Use the "case studies" given by the professor to address the ethics and issues raised. Adapt a newer set of ethics based on the session and then bring out creative tools and inspiration from first weeks of semester to adapt with a partner.

Assignment: Read one chapter in Discovering Genius and prepare another Think Sheet, stopping partway down the page to leave "a space in between" two paragraphs or sentences. Finish the Think Sheet with at least two more of these blank spaces between your writing and bring it to class. Bring one item to class (written, visual, etc.) that represents focus to you.

Week 7: Adapting Ideas by Changing our Inspirations (Engineer)

Why am I doing this?

1. *You will use the ideas of adaptation in the creative setting.*
2. *You will formulate your own ideas about the use of creative technology in personal life at school, neighborhood and work.*

How do I learn this?

Assignment during class: Participate in a small group to share the implications of computers and the tools available to personal and collaborative creativity, present some creative tools and ideas for the group to collaboratively adapt based on the opportunity or problem presented by the professor, adapt lateral thinking puzzles and case studies to include some conditional ethics and absolute rules for creativity. . Exchange Think Sheets homework and allow your partner to write what thoughts are provoked by your writing in between the spaces as well as questions for consideration.

Assignment: Work on "Scratch or Xtranormal" presentation of an adapted creative tool, concept or inspiration and contact professor if using another computer tool in order to share with class. Bring to the next class one item that to you shows empathy.

Week 8: Adapting Ideas by Changing our Inspirations (Diplomat)

Why am I doing this?

1. *You will share creative ideas using technology in order to assess results.*
2. *You will give some of your time to learn about and help the CCT program to practice constituency connecting ideas.*

How do I learn this?

Assignment during class: Participate in presentations of adapted creative tools, dialogue about creativity in empathy and persuasion, model adapting ideas with a "think aloud" sharing with a partner, go through a mini research/engagement process with the professor using some of the tools in different order and technique than the graduate class after sharing by guest speakers. Spend the rest of the time on CCT help/promotion ideas to share.

Assignment: Upload link to professor of finished product to have available in the classroom or to forward to students before class. Write a Think Sheet on the learning or thoughts provoked from creating your presentation with spaces in between for you to come back and fill after seeing everyone's presentations. Bring in one humorous item to share in the next class meeting.

Week 9-12 Why and How to Create Ideas

Why create ideas? Creativity is not just adapting, but transforming—expressing self in new ways.

How do I create ideas? We will work on taking inspirations and creating from them so that the inspiration is no longer easily identified, but still necessary to acknowledge.

Method to share why and how: You will need to act as participant researchers in action research, apply metacognitive techniques to your work and develop personal reflective practice habits.

Week 9: Creating Ideas by Transforming our Inspirations (Inventor)

Why am I doing this?

1. *You will return to stories to learn and generate new ideas in an organized structure.*
2. *You will organize your personal inspirations into a chart or summary that will be easy to use in the future.*

How do I learn this?

Assignment during class: Participate in a "thinking about thinking" walk through of creative people, places, processes, product and persuasion characteristics before contributing your own sixth "P." Write a reflective paragraph about the "create" a tool process used by the professor from the story base.

Assignment: Read the following internet articles and make two new "Whack Pack" cards of what creativity rules are found in the stories.

http://www.packagingcorp.com/pages/continuous_recycling/73.php

http://about.americanexpress.com/csr/comm_serv.aspx

List interests, hobbies, talents and preferred classes/jobs to bring to class. Bring in one item to class to share about perseverance.

Week 10: Creating Ideas by Transforming our Inspirations (Pioneer)

Why am I doing this?

1. *You will meet CCT members as a means to connect and learn and to develop as a source of inspiration in lifelong learning.*
2. *You will practice the "create" a tool concept and will describe the difference between this inspired product and an adapted one.*

How do I learn this?

Assignment during class: Participate in small groups to "create" with the items in the toolkit as inspiration. Dialogue about "adopt, adapt, and create" and use the 4Rs to evaluate a personal experience story of creativity. Take notes during a guest visit and fill out a 4 Creativities rubric to turn in.

Assignment: Look ahead to Week 13 assignment, begin planning and turn in a Think Sheet about the assignment. Bring in lists of music and credited sources of art and architecture pictures to add to toolkits with a reflection on how to use these as inspirations to create "new" things. Bring in one item to the next class to share about focusing.

Week 11: Creating Ideas by Transforming our Inspirations (Engineer)

Why am I doing this?

1. *You will study creative success stories for the techniques that best help you refine and modify ideas that you are implementing.*
2. *You will create your own tools based on this research to put into future action.*

How do I learn this?

Assignment during class: Participate in the student generated based learning that creates tools and ideas to bring to a problem/opportunity and then combine themes to unify some categories. Discuss ways to get beyond ideas to producing and engineering them and write a Think Sheet while in class.

Assignment: Research a problem or opportunity you would like to share in class. Use the four corner format and questioning techniques as metacognition in your written reflection. Bring in one item to share about empathy.

Week 12: Creating Ideas by Transforming our Inspirations (Diplomat)

Why am I doing this?

1. *You will review and reflect on your learning to be able to teach it.*
2. *You will practice creative thinking by using homework from another class and then assess your current progress on original "goals and questions" contract.*

How do I learn this?

Assignment during class: Revisit the 3 goals and 4 questions contract. Spend time in collaboration on the structure of the final class which can include sharing of the created creative tools and products or future plans for using the class.

Assignment: Meet with two other classmates outside of class to share "created" creativity tools and use one during the week to help others. Develop a plan of when/how to seek encouragement and where/why to use personal creativity that will be submitted to the instructor.

Week 13 Why and How to Synthesize

Why synthesize ideas? Creativity comes from putting things together in new ways.

How do I synthesize ideas? You will work on a meaningful way to share what you have learned in order to become a creative and lifelong self-directed learner.

Method to share why and how: You know yourself, your class and teacher best, therefore you can choose how to engage us in your experience.

Week 13: Synthesizing Ideas by Living as Inspirations (Inventor, Pioneer, Engineer and Diplomat)

Why am I doing this?

1. *You will take charge of your own learning by teaching yourself and others*
2. *You will combine what you've learned into something useful for your future.*

How do I learn this?

Assignment during class: Student led choice, individual or collaborative or combinations of both. Evaluations of the course will also be completed as well as a submission of your final assignment along with a document checklist of your 4 Rs.

Final assignment includes sharing of your personal definition of creativity as well as some chosen adopted, adapted and created tools with explanation of why and how to use them. This reflective paper must include future plans for your use of creativity and is due at the beginning of class; the remainder of the class time will be student driven except for the completion of the course evaluations at the end.

Personal Introduction to the Curriculum Activities and Design

In a perfect world we treat others as we like to be treated and this positive must be a part of the teacher modeling. A mutual engagement in inquiry and discovery can serve to keep the class motivated and developed as a constituency for future graduate classes at CCT. This learning partnership has to start before the class even walks in the door. Before class begins, students should receive emails from the instructor with instructions and encouragement to facilitate creativity. Since it is proven encouragement raises grading scores at the high school level, this course offers the opportunity to study students and discover if the same holds true at the undergraduate level. Self-analysis at the end of the course provides an evaluation tool for effectiveness. As modeled by CCT professors, the instructor will complete some of these assignments as well and returns assignments in a timely manner.

The structure of the class includes increasingly longer time for breaks and student led discussion or exploration in order to allow the mind time to process and to engage in self-directed learning. Although many courses emphasize self-directed learning through curiosity, I will try an approach recommended by one of my instructors. "Students must be able to see for themselves that someone is actually counting on their understanding, that what they learn is going to have an authentic influence on a real problem in their individual or collective future… I think PBL and service-learning, for example, are good starts" (personal communication, J. Stzeiter, April 10, 2013). As participatory research into something a student cares about changing, one project throughout the course practices altruistic team based learning (ATBL), a combination of problem and service based learning with two rubrics, "Service Tools" and "Reflective Supports." These are included as part of the appendices.

The explanation for the courses set up as my own autobiographical fractal is that we should teach what we know and what we love. For me, both the intellectual and emotional aspect can be complementarily engaged to produce my best work. The adopt section of the curriculum follows the first semester of my own CCT classes. The tools presented represent the Creativity class, the Creative Thinking, Collaboration and Organizational Change class and the Dialogue Processes class. These three areas—a base for the actual study of creativity, a look at creativity in a group and the dialogue process—are a means of reflecting and sharing the learning. This is the time to require students to collect and bring in their own creative tools to share, their inspirations and their knowledge of creativity.

Not only is this vital for the teacher to learn about the student for the rest of the semester, but by requiring the student to gather their past and present, they begin to practice creative recognition in order to develop their own definition, their own goals and finally their own openness for the future. Another course, Writing across Curriculum, provides some activities and tools for the learner since it provides a crossover appeal for myself as a writer teaching those who might not share my passion. Writing in this instance is either for learning (for self) or sharing (for others).

The adapt part of the curriculum follows my second semester which as a combination of the summer and fall term included a Bioethics class, Thinking, Learning and Computers and the Processes of Research and Engagement. These three classes focus on ethics through case study, a changing dynamic of computers in the learning process and teaching the student a process to find the questions he wants to answer and the resources and information to do so.

The third part of the semester is "Create." The classes that fall under this section due to my original course of study are Reflective Practice, Metacognition and Action Research.

Because these are very much focused on learning through thinking, questioning and dialogue, these work well for creating tools for meaningful problem solving.

The final week of the class is a small echo of my Synthesis class, allowing students explore and make the last class their own. Since this is student driven and an opportunity to come back to the questions not yet answered, I will not structure this week in my curriculum. The students will receive "free time" each week to practice the habit of self-directed learning so the last class (in which we switch roles and I become the student) will be incrementally facilitated.

The final assignment is to create a personal definition of creativity and then explain which tools were adopted, adapted and created from this class for future use. It is a mini-thesis echoing CCT components in the hopes that it inspires the student to continue with graduate classes. Two creativity classes I have experienced began with defining creativity, but I am interested in the results of making this the final assignment.

As the class finishes, there is another responsibility for the instructor. In order to track the success of the class, of the methods and of its value to the graduate Critical and Creative Thinking program, the instructor will offer encouragement in the last assignment, contact students one month later and promise to write a letter of recommendation for the application into the graduate program. Students who enroll in the CCT graduate program after completing this class will provide another measure of the success of the course as well.

Curriculum for the Instructor

The students received an abbreviated curriculum in the sample syllabus. The following pages present instructions for these activities.

Prior to Week One: Email personalized encouragement to the students, including expectations.

Weeks 1-4 Creativity Skill Emphasized: Adopting Ideas

Theoretical Concepts Emphasized: Perception Based Creativity and Creativity in the General Domain

We begin by increasing awareness of where we get our ideas, why we are drawn to and choose certain ones and how creativity can be found anywhere and from anyone.

Week One: Adopting Ideas by Using our Inspirations (Inventor)

Learning Objectives for All Activities Cumulatively: Students will define the value of creativity within individuals and group and be able to list the implications of recognizing creativity as useful and present everywhere.

Creative Values Activity (This is an activity developed in CCT 692 and used for a smaller workshop at church)
Time: 30 – 45 minutes

Supplies: A large clasp envelope containing fake paper money for each participant (seven bills—three ones, two tens and two hundreds)
Suggestion: Use old Monopoly money for a small group or photocopy homemade currency on colored copier paper.

Distribute envelopes with the seven bills to each person and instruct everyone to explore the room and put currency (any amount they choose) beside "what's creative" in the room. Instruct students that they may change their choices or currency amounts around if they choose,

but they may only use five of the seven bills. Allow up to five minutes for this activity, then discuss as a group what they value as creative. Ask them to share how others' choices and amounts placed by items affected their choices. Discuss which items received the most votes and highest value. Explore the idea of creativity as currency, how risk and cost relate to use and debate whether creativity is abundant/scarce. As a group summarize what is learned and what meaning there is to their last two remaining bills.

Getting Carded (Original activity—inspired by the words "creative license" and how we do not need one to be creative)
Time: no more than 30 minutes

Supplies: Index cards (five per student)

Hand out five index cards and ask students to take five to ten minutes to write down a short autobiography on one card. This can include name, hometown, interests and major. On three cards, they must write a list of names of people and things inspire them, ways in which they like to solve a problem and what creativity means (why are they here in this class). The fifth card is the creativity card. Students may choose what to write or leave the card blank. Ask students to share what they wrote. Monitor time allowed for each student so that all who wish to share are able to do so.

Contract of Three Goals and Four Questions
(This original activity was inspired by the quiz in CCT 694 testing knowledge of consequences of incomplete work. This activity emphasizes a quiz that will test whether teacher and student complete their chosen work—practicing accountability as a creative skill).
Time: Up to 20 minutes

Each person writes three specific goals for this class and submits a signed copy to the professor. Goals may be shared with the group. The professor will sign each student's goals and return a copy to the student. Students will also list four questions they wish answered in this class. The list is to be brought to the next class so that a copy of these questions can be made by

the professor. The students must take this to reflect upon for homework to practice bringing work back to class and taking the time to consider the assignment. Forgetting this first assignment requires a makeup activity as well as submission of the assignment for the point given for completion.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 10 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 30 minutes

ATBL Project (based on Szteiter's recommendation of team/service learning alternative to PBL)
Time 10 minutes

Allow students to share ways in which they wish to use creativity to help others. Keep a collective record kept to discover themes and problems that might be addressed.

Think Sheets (Adopted from Dr. Larry Speck and explained in Appendices. This activity is to be started during class and due at the next class in order to help ensure homework completion)
Time: 20 minutes

Prime with four questions: How will you be like an inventor in this class? When will you act as an engineer? Where do you see yourself as a pioneer? Why will you be like a diplomat? Take turns reading aloud one chapter of *Discover Your Genius* and talk out loud to model "think sheet" learning which is described in the appendices and is adopted as a creative thinking tool in place of CCT's "Freewriting" activity.

Encouragement Envisioned
Time 20 minutes

Watch and discuss some "creative" movie clips about encouragement such as "Facing the Giants" (the 100 yards scene) or the final scene in "The Great Debaters."
Discuss the kinds of encouragement that exist (ideas in addition to support, praise and challenge) in order to define which kinds work and when. Have partners practice this skill with each other.

Extra Activities: Perception or Inquiry
Time: 10 minutes

Based on class so far, end with either a "what do you see?" informal "quiz" (inspired by Mary Lou Horn's description of "one word quiz" by a UMass professor) or allow student to ask the professor four question (chosen by group) to mimic the four given before Think Sheets. The "What do you see?" quiz used an object chosen to inspire discussion as in Feuerstein's mediated learning process.

Note: Ask students to use a binder, notebook and folders in which to collect creative ideas as an inspiration notebook or toolkit.

Week Two: Adopting Ideas by Using our Inspirations (Pioneer)

Learning Objectives for All Activities Cumulatively: Students will collect ideas to adopt and focus on perceiving creativity everywhere.

Field Trip Treasure Hunt Activity (This is the second CCT692 Workshop activity used even though the class is focused on this hunt further in the following weeks.)
Time: 30 minutes (15 for search and 15 minutes to share)
Note: Share your own methods or personal experience of finding inspiration.

Supplies: A fine tipped colorful marker and piece of construction paper for each person

Instruct the participants to leave the room for a fifteen minute inspiration hunt—they are to write down and bring back phrases, symbols or pictures of something they recognize as creative. Have them share discoveries with partners and then as a group list as many reasons as possible to answer why "field trips" are necessary for recognizing creativity.

Creativity Everywhere (Inspired by the videos/audio of graduate Creativity class and the alumni of CCT attending Open Houses to share and continue learning)
Time: 45 minutes including time for discussion and questions

Invite at least two people into class to discuss creativity such as a maintenance worker,

street performer or nursing home resident. Model questions that are appreciative inquiry and that affirm creativity.

ATBL Project
Time 10 minutes

Allow students to add to list and then group problems that could be implemented.

Lateral Thinking with Opportunity Based Learning (Inspired by trying to find the positive side of adopted technique of problem based learning pioneered by Nina Greenwald)
Time: 20 minutes

Questions: What would you do with one million dollars—document thinking.

Would you take job A (high pay, long hours), job B (medium pay, dangerous neighborhood) or job C (lowest pay, great co-workers)? Explain.

Ask students to generate two "opportunity with no right answer learning questions" to exchange with a partner and answer. Give time for each pair to share responses before debriefing in the larger group.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 10 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 30 minutes

Whack Pack: (Adopted tool for changing perspective creative problem solving)
Time: 30 minutes

Supplies: Index cards (three per student)

Direct the students to generate a list of problems and then ask them to choose three, writing one per card, to place in a deck together. Take turns reading "Whack Cards" to apply to a chosen "problem" card. Discuss how these might be adopted in other situations.

Extra assignments: Perception or Inquiry
One word quiz and sharing the inspirations that could be brought to class using music
Time: 15 minutes
Supplies: Paper

Ask each student to put one word at the top of the paper and then direct them to do a Think Sheet recording the thoughts provoked by the word. If the class is more extroverted and interpersonal, discuss ways in which they could teach creativity using music as an inspiration (possibly adopt and implement a student idea the following week as a refining mechanism within this curriculum).

Note: Remind students to bring their inspirational notebook or toolkit to class since it will be used next week. Collect and keep the list of problem cards for the next class as well.

Week 3: Adopting Ideas by Using our Inspirations (Engineer)

Learning Objectives for All Activities Cumulatively: Students will collect ideas to adopt and focus on perceiving creativity everywhere.

"Choral" Collaborative Dialogue (this activity is adopted from Constance Cook's thesis)
Time: 45 minutes

Supplies: None needed

Set out a small, but wide circle of chairs with the index cards as names of the problems each person will discuss when sitting in that chair. Cluster some chairs around each marked chair. "Establish a committee with a representative (who sits in the marked chair in the circle) for each character. The committee that sits behind the representative) will help the character understand his viewpoint in this particular situation. The characters speak, with the committee coaching from behind. All perspectives are explored, and the characters engage in dialogue about the situation and even take on more than one viewpoint" (Cook, 2011, p. 2).

After students have had a chance to respond to different problems and perspectives, ask them to switch places a few times, both the marked or committee chairs. Bring everyone into the circle at the end to talk about what they saw and heard.

ATBL Project
Time 10 minutes

Allow students to refine problems into smaller segments and list adopted tools that might help to define and/or solve the various problems.

Quick Draw What You Saw (this activity is inspired by the book On the Back of a Napkin)
Time: 20 minutes

Supplies: Markers or colored pencils—make students use them

Ask students to read aloud some of the inspirational sayings, concepts or tools they have collected. While they do this, ask the others to "draw" a way to remember and visualize these words for themselves. Take time to share and then discuss some techniques for "seeing creativity" such as graphic organizers, mind maps and brainstorming bubbles. Discuss how symbolic language through picture is used creatively in clarifying, sharing and persuading.

Personal narrative shared by the professor (this is to connect to my life outside of class as I will next ask students to do)
Time: 20 minutes

Share a reading from the Appendices, either the Adoption Story or another if better suited to class needs. Ask students to fill out a Think Sheet of what thoughts were provoked as they listened. Then ask them to think of questions to ask and go over ideas of "appreciative inquiry" if needed. Give students the option of turning in the Think Sheet for me to give feedback or to give it to a classmate to give feedback.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 10 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 30 minutes

Share stories with partners in the classroom using same process
Time: 20 minutes

Ask students to pair with someone new and share an experience about adopting an idea or strategy as well as the results. Direct the listener not to interrupt or ask any questions until the person has finished. Share what thoughts were provoked and ask questions. Reverse roles and repeat. Report to the larger class any commonalities and differences in perspective.

Implementing and refining a student idea
Time: 15 minutes

If the students brought in music or can provide it with electronic means quickly, try out the idea given by a student as a learning experience. Ask students to fill out a 4 Rs evaluation to assess the experience. (Go over how to do this by modeling.)

The three words discussion (adopted from Peter Taylor who put three Russian words on the board at a conference in Moscow and allowed the discussion to develop from there, personal communication, April 2, 2013)

Time: 10 minutes

Have students call out three (inoffensive) words and write them on the board. Ask the students to start a discussion using what they have chosen.

Week 4: Adopting Ideas by Using our Inspirations (Diplomat)

Learning Objectives for All Activities Cumulatively: Students will build constituency by sharing ideas to connect with other as well as adopt another personal thinking tool from the CCT faculty.

Idea Fair
Time: Up to 2 hours

Students will present their adopted ideas in a short presentation to the class while

listeners use the 4 Creativities worksheet for each other as feedback. There will also be a minute or two between presentations for students to add any ideas to their own notebook/toolkit. Discussion after the presentations will be an individual, then cumulative brainstorming sharing of the ideas to discover and connect with others' choices. The final notebook/toolkit time is given for these ideas to be recorded as well.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 10 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 30 minutes

ATBL Project
Time 10 minutes

Allow students to form teams to focus on problems each will work on with discussion of the attributes of a team versus a group or committee.

Adopting Teaching to Learn Techniques
Time: 20 minutes

Supplies: Post-it Notes

Using the Gelb book, go to the end of any two chapters and analyze together the tools and concepts presented. Discuss why these are there, how they are helpful (if) and then list some of the teaching strategies and favorite lessons each student has experienced on Post-It notes. Put these on a large space and have the group(s) work together to categorize them. Take the time to share why these lessons and strategies were chosen so that students can evaluate which work best for them or are the most memorable. Remind them that the assignment is to decide which teaching techniques they would adopt to teach themselves and which they would adopt to teach the class.

Weeks 5-8 Creativity Skill Emphasized: Adapting Ideas

Theoretical Concepts Emphasized: Creativity without Hierarchy and Intelligences Creativity

We continue by increasing awareness of creativity as four equal kinds, decide when and where we need to change or combine our thinking and how creativity can cross over between multiple intelligences and meet situational needs.

Week 5: Adapting Ideas by Changing our Inspirations (Inventor)

Learning Objectives for All Activities Cumulatively: Students will practice adapting questions and creative thinking tools.

Adapted "Quaker Clearness" Conference (created to explore a different questioning method)
Time: 30 minutes

Supplies Needed: None

Ask each individual to write down a personal problem that he/she would be willing to share aloud. Divide the class into small groups and ask each person to take a turn sharing the problem. When the participant has finished speaking, the others in the group can ask questions, but cannot give advice or make comments. Model the procedure with a student in order to show how to ask questions to gain information, rather than try to solve the problem. Remind the students that the person with the problem must find the solution and the questions provide different viewpoints to help.

Sol LeWitt's Art Movement (created when Dr. Larry Speck, architect, said this was his inspirational person)
Time: 45 minutes

http://www.massmoca.org/lewitt/

Display some of Sol LeWitt's artwork and explain how he utilized rules or ideas to explore. Ask students to draw five lines and add two that intersect. Have them make as many

small doodles that meet this rule as possible in five minutes. Ask them to share with a partner and discuss the implications of following a rule in multiple ways. Discuss what happens when we do not define a rule for others, but expect them to know and act on it. Put students in teams and ask them think of two rules for moving across the room such as three steps forward and one to the right. Have them direct members of another team, first by saying "yes" or "no" to a guessed movement and then stating the rule and seeing what happens as the other team enacts and interprets it.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

ATBL Project
Time: 10 minutes

Allow students in teams to review ways problems might be addressed in new ways compared to others that were adopted and tried in the past.

"Thinker's Pledge of Contradictions" (This adapted tool is from Jeremy Szteiter's thesis)
Time: 30 minutes

Read the following aloud to students:

- I will be a Teaching Mind scientist by making the world my teaching laboratory, AND I will also be a Teaching Mind artist by developing my own aesthetic style about the nature of teaching and how to communicate it to others
- I will attend to my own teaching and trust my own style, AND I will also encourage others to find their own styles of teaching
- I will always ask the question, "What should my next question be?"
- I will not be fooled to believe that I will *achieve* the Teaching Mind, AND yet I will still continue to seek the Teaching Mind
- I will honor all that I have learned, AND I will also embrace perspectives that have never been offered to me
- I will take ownership of my own Teaching Mind, AND I will also share my ideas with others
- I will allow my mind to guide my teaching, AND I will allow all of my bodily senses to experience my teaching

- I will have confidence in my point of view, AND I will also notice the relative nature of my thinking about teaching
- I will develop, build upon, and revise this list constantly (quoted from 2007, Szteiter, 2009, p. 133-134).

Ask the students to write a "Think Sheet" in response. Discuss examples of perceived applications such as using it in life (decide and predict implications), what it means to creativity (is this the same or different) and how it can be shared with others (why live contradictions). Begin the homework assignment together by listing personal rules in thinking, learning and teaching and then start putting some together as paradoxes.

Attack the Whack Pack
Time: 20 minutes

Share some of the humorous homework collections with partners to get students into relaxed state. Then the instructor will model the activity of selecting a creative thinking tool card and "adapting" it. (Define adapting as changing the rule, structure, item or inspiration but still being able to see/trace the original source within it). Ask students to find the problem that fits the cards rather than the other way around and give time for students to write or draw notes to keep any ideas they wish to try out.

Week 6: Adapting Ideas by Changing our Inspirations (Pioneer)

Learning Objectives for All Activities Cumulatively: Students will list and categorize the ethics and values that they have about creativity.

Dialogue Review
Time: 20 minutes

Ask students to discuss and decide the format for exploring the ethics and values in creativity. The instructor should participate as a student, allowing students to take the lead while discussing what questions, assumptions, responsibility and paradoxes exist in this. Allow

students to decide how to conclude this activity—such as adding to notebook/toolkit or listing ethics agreed upon as a group.

ATBL Project
Time 10 minutes

Allow teams to work on adapted tools for implementing a solution and how to pilot/experiment with these ideas.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

Critically creative
Time: 45 minutes

Use the "case studies" given in *Critical Thinking* (2002, p. 222-226). This adaptation though requires the students to practice coming up with the best questions instead of the best solutions. Bring out *Make Just One Change* book to go over question formation techniques (2012, p. 25-26 for invent and implement/choice and p. 35 to refine). After working individually, have students come back together to share and connect. Some of the author's questions from the case studies on ethics can be shared to find similar and different views.

Persevering Adaptation
Time: 30 minutes

Take the time for students to share at least with partners the perseverance item brought to class (this is to motivate them before activity). Ask the students to bring out the creative tools and inspirations they have collected to date. Allow choice of working in pairs or alone to "mix and match" creative tools, both alike and contradictory ones. Instruct them that this is deliberate play and they do not have to write any adaptations down until last five minutes to save. Discuss and/or share the process and what it taught them about their ideas and themselves.

Half and Half Ethics (inspired by comparing Szteiter and Paul/Elder readings to explore whether ethics are formed by finding like views in our society or whether we deliberately think them out to choose)
Time: 30 minutes

Begin with a focusing Think Sheet to list which ethics and values are important to implement and why. Paraphrase principles (p. 135-136) and read aloud responsibilities (p. 182-183) for thinking (Szteiter, 2009), before reading aloud Critical Thinking (2002, p. 214). Ask students to write again on the Think Sheet of what thoughts were provoked and what they want to save from these ideas to add and implement. Discuss in a large group the influences on ethics and how education forms them. Ask students to compare the first half of writing (their own thoughts) to the second (outside thoughts) and the implications they see in their writing.

Week 7: Adapting Ideas by Changing our Inspirations (Engineer)

Learning Objectives for All Activities Cumulatively: Students will explore and explain their perception of the effect of technology on creativity.

ATBL Project
Time 10 minutes

Allow teams to consider refinements to their solution using adapted tools for analysis.

Flipping and Stumbling
Time: 20 minutes

Have students present some items that show focus as the homework "show and tell." Then share some technology that inspires creativity in the professor (such as "Flip Book" and "Stumbled Upon" apps. Allow students a chance to share their "creative apps" and then discuss what "creative applications" can be made between the homework and the technology/ideas presented.

Revisit the Opportunity Based Learning
20 minutes

Ask students to discuss these questions in small groups:

If you could refine the following, which would you choose and why—the education system, the government system or the religious system.

Would you choose to help one individual completely turn his life around, a family turn its life around for a year or a town turn around for a month? Explain.

You are able to choose the class you like at the worst time of the day or the unpopular class that meets a requirement at the best time of the day—what values do you use and why?

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

Lateral Adaptations
Time: 45 minutes

Hand small groups DeBono's Lateral Thinking and other books which claim the same concept. Ask students to pick some puzzles and change them slightly in some way. Have students share briefly, but focus the discussion on DeBono's idea of lateral thinking and then on the adaptations made—could someone else see the original source in the work and how/when is that inspiration to be credited.

Situational Action and Ethics
Time: 30 minutes

Hand out newspapers or allow students to bring up current stories from computers or other electronic devices. Set the room up with a circle of chairs and then "act out a scene that reflects the real situation, playing roles of people involved" (Boal, as quoted by Szteiter, 2009, p. 114). Other watchers are given a card to play which allows them to say "rewind" or "change" to require the person speaking to go back and repeat words or change the perspective. Take only

five minutes per story and make sure there is some changing of roles from actors to watchers. Discuss the "rewind" and "change" commands—what ethics or ideas were explored?

Think Sheets Exchange
Time: 10 minutes

Have students exchange their homework and allow the partner to write thoughts provoked by this writing in between the spaces that are there as well as adding any questions for consideration. Ask the partner to sign at the bottom before returning this paper. Ask students to read the sheets and turn in to professor.

Week 8: Adapting Ideas by Changing our Inspirations (Diplomat)

Learning Objectives for All Activities Cumulatively: Students will serve constituency in their work on behalf of the graduate CCT program and in sharing creative tools to a larger community.

Programmed Thinkering
Time: Up to 2 hours

Ask students to use the 4 Rs worksheets to assess each creative product. For each presentation, model appreciative inquiry and encouragement. Note the follow through by other students with affirmation.

Built in break and self-directed learning time (5 minutes break, 5 minutes transitions/instructions and up to 5 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 15 minutes

CCT Constituents
Time: 30 minutes

Allow students time to share empathy items brought in as homework. Next, ask students to divide up and review various webpages about CCT. Have a jigsaw sharing time and then talk about the ways to do more research and engage in the processing/learning about a topic. Ask

students to individually work on CCT help/promotion ideas. Remind them that these will be forwarded to the graduate program and can help build constituency for them there.

ATBL Project
Time: 10 minutes

Allow teams to share adapted tools meant to build constituency for an opportunity to solve their chosen problems.

Extra: Perception and Inquiry
Time: 5 minutes

Revisit "What Do You See?" or "One Word Quiz" as a fun ending activity

Weeks 9-12 Creativity Skill Emphasized: Creating Ideas

Theoretical Concepts Emphasized: All Thinking as Creative and Critical and Individual with Collaborative With Individual Learning

We begin to analyze and innovate by increasing awareness of creativity within both facets of thinking, identify who and what grows our thinking and how creativity can cross over between individuals and groups in various ways.

Week 9: Creating Ideas by Transforming our Inspiration (Inventor)

Learning Objectives for All Activities Cumulatively: Students will learn the difference between adapt and create while working to apply creativity individually and in groups.

6 P 101
Time: 1 hour

Read "Giving Up" to students. (This activity must alternate between individual writing and collaborative sharing.) Begin by asking students to list inspirations they have now as creative people. Ask them to indicate with their own graphic symbols and a key chart which are

good to follow (mimic), which are good to learn from (coach), and which are good to find encouragement (mentor). Allow any other category if needed. Discuss in a group the support system each has as a creative environment and what places also aid creativity (press). Have the students go back to their notebooks/toolkits and write down the methods and things they prefer to use in creativity (Example: author looks at architecture to inspire writing curriculum.) Work in two teams to share ways students can connect with others (persuade/convince) creatively by using Whack Pack competition to state an idea to be able to add to and build the largest house of cards. Conclude game by a discussion of the things that can knock down the creative "house" and share the humor homework to build back up again. (Explain why creativity needs relaxation from *Imagine* book and how humor helps.)

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

ATBL Project
Time 10 minutes

Allow teams time to invent created tools as well as decide when/how they are going to follow through before the end of the course.

Inventing Stories
Time: 20 minutes

Share the "create" story in Appendices and ask students to take a few moments to list some of their own invention stories with only a few details to remind them of key points. Ask them to get into triads to share these stories with each other and then have the students write a reflective paragraph of this process. Discuss in a large group how story and personal identity can start the inventor phase.

Backward to the future (inspired by Critical Thinking idea from Paul & Elder book)
Time: 30 minutes

Have students take the history items they have brought and put them in order from newest to oldest. Discuss what they see and then ask them to take out their notebook/toolkits and go through it from front to back. Read p. 136-138 in *Critical Thinking* and then ask each student to write about reverse pioneering and what that means to them in "designing their lives."

Three Word Drama (inspired from Peter Taylor's three word dialogue and show "What's My Line?")
Time: 15 minutes

Have students choose three inoffensive words to put on the board. Ask students to get into triads to include these three words in some sort of play—it can be as short as two lines, but they only have five minutes. Take the time to present these and discuss the meaning given to these words by the creations and contexts used.

Week 10: Creating Ideas by Transforming our Inspirations (Pioneer)

Learning Objectives for All Activities Cumulatively: Students will collaborate and create new toolkit items from the inspirations they and the professor have brought to class.

Toolkit/Treasure Chest
Time: 1 hour

Supplies: Bring in art, music, books as well as science and history items (try to include all domains of multiple intelligences to display)

Instructor and students will lay out items that inspire creativity. The class then has about fifteen to twenty minutes to walk around to see them. (This is an echo of the Idea Fair in week 4). As they look at items, they may jot down ideas or wait until seated. Ask students to retrieve their own items and study them for up to five minutes. Request that they group their items and share what categories they choose and why. Allow them to then work in groups or alone to

create some new tools or products out of what they have after professor has modeled some ways to do so. While working, the professor can help any who seem "stuck" by talking them through the ideas that are started. If time allows, discuss how each would implement the tool that they created.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

Visitor Views
Time: up to 45 minutes

Set up one or more guest Speakers from CCT (teachers, students or alumni) to share what research or projects they are working on or have recently completed. Take the time to have the student practice the appreciative inquiry. Ask students to fill out a 4 Creativities rubric after the talk to submit.

ATBL Project
Time 10 minutes

Allow teams to share how and when they are going to implement their created tools for their chosen problem.

Persistently Reviewing 4 Rs
Time: 20 minutes

Supplies: Post-It Notes

Share the perseverance items and discuss how these help the pioneer phase/kind of creativity. Categorize the items into the 4 Rs using Post-It notes on the wall and then individually create visual symbolization to remember the ideas generated. Ask students to share pictures/ideas if they wish and then discuss the implementation of 4 Rs into different or unexpected settings.

Week 11: Creating Ideas by Transforming our Inspirations (Engineer)

Learning Objectives for All Activities Cumulatively: Students will find engineering tools collaboratively and then refine them individually for personal use.

Think Sheet First
Time: 15 minutes

Require students to begin without a prompt. Ask them to write about what thoughts are provoked as they sit—try not to give the following unless they seem really stuck—such as thoughts about other classes, ideas about the class or concerns from family and friends. Ask them to highlight words when they re-read or draw symbols that are generated from the thoughts. Do not discuss, allow students to just be aware of their own thinking (more like freewriting in CCT).

Focused Scan
Time: 1 hour

Divide the class into teams to approach the Gelb book one last time. Ask each team to take a chapter of a person and find the techniques and strategies used by the person to refine/develop/test his or her ideas. Since this is the creativity hardest to find tools for, ask the students to find them within biographical success stories. Give students other "story" books skim and consider such as *Fish, The Adventures of Johnny Bunko, Creating Minds, The Creative Habit* and *The Big Deal*. After at least forty minutes, come back together to briefly report on which ideas or techniques were culled from the reading about refining or modifying one's idea.

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

Flow Chart Thinking (inspired from "The Big Bang" TV show Sheldon Cooper's "friendship algorithm")
Time: 20 minutes

Supplies: Screen and video capacities for online video share

Allow students to share their items brought in for the topic of focus. Discuss how this kind of inspiration helps the engineering creative mind. Then watch the following: http://www.youtube.com/watch?v=k0xgjUhEG3U. Work with the students to create a "yes" and "no" actions flow chart of any topic they choose such as decision making for having a party. Discuss the applications and the drawbacks to this kind of approach to refining an idea.

Refinery (based on name and funneling idea of convergent creative thinking)
Time: 20 minutes

First ask students to record ideas on what processes and recommendations they liked about refining, modifying and testing ideas (5 minutes). Ask them to share in triads to come up with an even shorter, more succinct (refined) list or summary (5 minutes). As a larger class, share quickly and come up with a general idea or no more than three rules to apply (10 minutes).

ATBL Project
Time 10 minutes

Allow teams to briefly use the tools given in class to refine their already tried or soon to be tried solution to their chosen problems.

Extra: Perception and Inquiry
Time: 10 minutes

Place an intricate object or machine on display and ask "What do you see?" Have students write some ideas alone first before sharing together as a group.
Remind students to bring a homework assignment from another class to apply creativity, but stress that the homework will not be done in this class for them—they will just have ideas to try.

Week 12: Creating Ideas by Transforming our Inspirations (Diplomat)

Learning Objectives for All Activities Cumulatively: Students will examine ways that the creativity class and each individual could connect to a constituency by using their creativity for others.

Revisit the 3 Goals and 4 Questions Contract
Time: 20 minutes

Using writing or art, ask students to list the ways the goals were met or could have been met and then answer the four questions they gave themselves at the beginning of the semester.

ATBL Project
Time 10 minutes

Allow individuals to discuss with their teams ways they've created to build constituency and the results of this in implementing or getting help to implement their solution.

Inside and Outside Work
Time: 1 hour

Take time to share empathy items to create different perspective awareness. Direct the students to use this time in class to research creativity online. Share the findings as a "seeding the clouds" event before starting a discussion with the group on what to do for the last class. (Give only 20 minutes, the rest must be done outside of class. Spend the second half of the time sharing the new problems students brought in as homework by getting in triads for students to discuss and consider solutions/actions (30 minutes). Look at the other homework assignment after class as a large group to choose what small action they'd like to try and report upon before next class, choosing partners/teams as well (10 minutes).

Built in break and self-directed learning time (10 minutes break, 10 minutes transitions/instructions and up to 25 minutes in which students ask questions, rest, socialize or find other ways to define this learning opportunity)
Time: 45 minutes

Connecting Constituency Communication
Time: 15 minutes

Ask students to create a new method or structure for sharing their evaluation of one of the first two activities rather than using the Think Sheets, 4 Rs or 4 Creativities worksheets. They may consider these as inspiration, but need to make their own rubric for assessing teaching and learning along with using it for feedback on these activities.

Collaboration Consultation
Time: 45 minutes

Allow students to choose triads, reminding them that diversity often fosters more creativity. Have the students bring out their other homework assignments to share with their peers. Request that other students use good questioning techniques to understand the instructions and the ideas the student sharing already has. Spend about fifteen minutes on each student with ideas that include ideas created, implementation methods, refinements that could be used and suggestions for other people to help and to become a constituency for this project.

Weeks 13 Creativity Skill Emphasized: Synthesizing Ideas

Theoretical Concepts Emphasized: Organizational creativity

Week 13: Synthesizing Ideas by Living as Inspirations (Inventor, Pioneer, Engineer and Diplomat)

Learning Objectives for All Activities Cumulatively: Students will systematically plan for the future and organize themselves and their ideas to teach to others.

We conclude by making some future plans on how to apply our increased awareness of creativity within ourselves and others, begin to organize our chosen creativity skills and then share when and where we will intentionally and systematically live creatively.

Because this week is student led, the learning will be facilitated through the class choice and from the last 4 R assignment. The final project is a learning tool, but more likely to be seen as unconnected to any presentation in class. In case of student anxiety over lack of structure, I provided a priming homework activity—they can decide to present the ATBL creativity assignment that they have not shared with me or their classmates in depth. There is also a chance that the students will choose to be "creative"—that is not have class because they "do not need it" or want to do something creative outside this box, yet I am fairly certain some will participate and do something together one last time due to the camaraderie I hope is fostered throughout the semester.

Week 14, 18

Week 14: Email graded final assignment with specific encouragement and what creative gifts and teaching the student has provided and might work to develop.

Week 18: Email or call student to check on creative progress from listed goals in final assignment; offer any help or resources as appropriate to encourage continued follow-through. Allow any further initiated contact to come from the student, but make it clear that you would welcome this.

CHAPTER FOUR

DIPLOMATICALLY CONNECTING CONSTITUENCY

This chapter addresses the final kind of creativity, namely, that of the "unifier." Connecting with a constituency occurs throughout the process of utilizing each kind of creativity because support is helpful to the creative process as well as providing recognition for the creative person. A constituency should be built during the development and refinement of an idea rather than waiting until the end. Having the ability to share with others and to allow input creates a collaborative interest and can lead to a sense of partnership as well.

Resistance to "marketing" or "selling out" may inhibit the person going through this creative process. There can be concerns about losing control of a shared idea, having it stolen or even that being entrepreneurial diminishes the creativity of idea. This concept is illustrated by the saying "the idea should sell itself." This unwillingness to fight for an idea due to the competitive field or time and unique skills required can derail all the work done in other phases.

Of course, there are some aspects of being creative that are just for the individual. But in order be "recognized" as creative, there has to be a group or larger society affirming or supporting some product or process. In this context, the creator has not made something innovative and valuable without some constituency, even if the individual believes it is. While my course tries to allow creativity as individual definition, society still influences perception and must be acknowledged as a partner in critiquing and celebrating it.

Constituency is defined in a few ways within the political and business world. It can serve "the public interest or simply self-interest" (Lord, 2003, 113). It is similar to a pyramid of supporters which has the person at the point elected or authorized to carry out the interests of the group or in another form has the person at the point dispersing or directing the group to carry out the interests of the individual. Constituency building is often seen as a tool to achieve an end. It is "the single most effective means of political influence available to business" (p. 113). Yet in

examining other uses by businesses, it does not require money as much as authentic effort to engage and enlist sincerely interested and sympathetic stakeholders (p. 116).

Effective strategies to build constituency may require "odd, even counterintuitive partnerships and alliances" (p. 117). This building has to include "ongoing involvement in the process" (p. 119) since the "more personal the means of communication, the more influential will be the feedback" (p. 120). Using personal meetings over mailings and advertising takes time and willingness to develop deep constituency as well as wide. This has implications in the creative outreach methods and perseverance. Going the distance in creativity with the fourth kind is not merely persuasive tactics or targeted marketing, but relationship building. As Lord describes from his research, "there is simply no substitute for the commitment such as a visit represents; or for the rich interactions and conversation that it allows" (p. 121). He goes on to suggest that "high quality communication from the right person, at the right time in the right manner can be more effective than many more poor quality communications" (p. 121).

In systems thinking, however, it is vital to note the difficulty in having one goal to achieve effectiveness since constituencies tend to have several means of judging needs (Connolly, Conlon and Deutsch, 1980, p. 213). Adapting a "multiple constituencies" model for creative recognition instead of "organizational effectiveness," the "intersections of multiple influence loops of influence" occur and can be effective (p. 215), yet the very nature of having different goals may allow different definitions of the level achieved (p. 216).

This emphasis on building constituency does not yet concentrate on whether the constituency serves the individual interest or whether the individual serves the constituency interest, but looking at the research in the service aspect helps clarify the need to not necessarily take an "either/or" approach.

Serving multiple constituencies for reform in the educational setting has been compared to "comprehensive collaboration" (Jones, 1994, p. 227) which is defined as "coordinating multiple services," "long term inter-organizational relations" along with an emphasis on "equal sharing and responsibility" (p. 228). These were suggested in the goal of "benefit of students"

and "for student achievement" yet can apply to other applications as well. Multiple constituencies are concerned with any stakeholder which is another important factor in building and serving them. Because constituencies provide a sense of belonging and an expectation of being affected by the "efforts of collaboration," they should be included as early as possible in the process" (p. 232).

Diplomatically Connective Constituency

From this brief literature review, some key points can be made for the ethics and processes employed by the creative person. In a multiple constituencies' model, there are interactive groups that work for similar if not exactly the same goals. Multiple constituencies can be effective, yet some awareness is needed of each one's role in the power structures, in the ways in which the tasks to achieve the goals are coordinated and understood and in the careful work to avoid setting them against each other. Some groups maybe more helpful, yet authentically, one group should not be put higher than another.

The individual has the responsibility to define the role in the constituency group. If this person is the representative, it may in part require serving within a larger constituency for another goal as well as the personally chosen one. This connecting, being in and for different constituencies carries the responsibility to choose roles without ego.

The business and political sense of constituency might be a negotiation, "I'll help you if you help me," but this quid pro quo does not need to be extended to the educational setting. Being part of a creative constituency whether the lead or the supporter is a learning experience, a chance to experience smaller scale diplomacy and participate in action research within a field that has not been greatly explored empirically or applied in many settings. Building constituency creatively can include vertical hierarchy to reach out to those in power positions, horizontal relationship to reach out to peers that can support you in either constituency role and finally, with diagonal connection. Diagonal connection means forming the unlikely

constituency, with people who may not help or even be expected to, but will be available to exchange ideas.

In connecting multiple constituencies, the best visual representation is a web, not a pyramid or Venn diagram circles. Creating relationship by sharing creativity and explaining position and passion within the work can yield unexpected results if the person as diplomat does not always focus on agenda or the belief that the person has to be usable for that goal. If a "goal mindset" needs justification for this diplomacy that comes without tangible outcomes or guaranteed indirect results, then it could be considered practice or an "in the field" opportunity for honest feedback.

Constituency connecting is building and serving, establishing relationship authentically and deeply, it is not merely surface appearance. Ethically it treats constituents as partners, not pawns. In Malcolm Gladwell's book, *The Tipping Point*, there are interesting suggestions for which constituents lead to success, yet this categorization might limit the diplomat. Rather than only reaching out to those perceived in these roles, the diplomat must do the creative work of learning personally which constituency models and forms work best for the goal and situation.

Acting as a creative diplomat, I next explore the goal of having my curriculum implemented and refined at UMass Boston through constituency connecting. I consider the multiple constituencies and methods I might employ to connect with each one.

Offering this Curriculum to UMass Boston

Creativity is important and embedded in the identity of this university. The Mission Statement on the University of Massachusetts Boston website highlights the value of creativity with the following statement: "our campus culture fosters imagination, creativity, and intellectual vitality" ("Mission and values,").

Although UMB offers only Master's degree program in the United States that features

both critical and creative thinking, creative thinking is not offered as a separate undergraduate course except where it is linked to the fine arts (personal communication, Taylor, 2013). An undergraduate creativity class would be a strategic offering to help meet the second goal listed in the "Fulfilling the Promise" fifteen year plan to "enrich and expand academic programs and research" ("Strategic planning 2010-2025,").

Provost and Vice Chancellor Langley envisions students as "co-designers of curricula and co-teachers in their own intellectual, social, and professional development" as well as the creation of what he calls "trans-disciplinary" curriculum with "portability of skills" ("Fulfilling the promise:,").

My course, *Applied Creativity: Tools toward Transformation,* is a general elective class that will engage students to both "co-design" and "co-teach" creative thinking tools. Students are required to bring at least one assignment from another class to analyze ways in which to apply creative thinking tools in the implementation process. By considering alternative approaches to utilize for their work, this beneficial outreach can meet the challenge of displaying "portability of skills" and "trans-disciplinary" curriculum.

This course will require the students to connect to the graduate CCT program for its support with an obligatory attendance to an Open House to network and to discuss graduate level topics. In addition, the students will complete a written commitment to creatively share their thinking tools and knowledge of the CCT program to others in and outside of UMB. This fulfills the promise of a campus culture fostering and promoting "imagination, creativity, and intellectual vitality" ("Mission and values,").

Offering this Course in Other Collegiate Settings

This course is a gift to UMass Boston in honor and for the benefit of the Critical and Creative Thinking graduate program. As part of constituency connecting, there is an acknowledgement of the span of time and work necessary to ask UMass Boston to accept and implement this curriculum. Part of the exploration in the process includes the consideration of whether this gift would be better accepted if UMass Boston were to offer it first or whether there would be more possibilities for implementation if the curriculum could be proven successful elsewhere.

Although there may be other undergraduate creativity classes not linked to fine arts, to date I found only Dr. Larry Speck's "Creative Problem Solving" class taught at the University of Texas at Austin and an "Entrepreneurship and Innovation" course at Oklahoma State University. However, in "An Overview of Education of Creativity and Problem Solving in Four Year Colleges and Universities," Lafferty lists seventy five institutes of higher learning that offer one or both courses in creativity and problem solving (2004, p. 2). Yet only six of these schools are identified as teaching creativity across disciplines and only three have departments of creativity (p. 3). There is clearly an opportunity to meet a need that has not yet been fully explored or considered.

Community colleges also provide a conduit for creativity training which is a venue for future consideration. A Synthesis course classmate, Noreen McGinness Olsen, has developed her own creativity course for this demographic, so I defer to her research and ideas by directing interested readers to her thesis entitled, "A Community College Course in Creative Thinking: Learning about the Creative Process while Developing Thinking Skills." This course will be offered at Middlesex Community College in the fall semester, adding to the list of the few

colleges that are teaching creativity as a topic that is not also linked to the fine arts.

By presenting this curriculum openly in a thesis, there is the potential that it will be used in total or in part outside of UMass or my own sphere of influence. I have considered this a test of my altruism and deliberately written my curriculum with this in mind. Very few teachers I know can teach activity based curriculum to adults on a consistent basis and know what questions to use to anchor this learning. Even fewer would structure their class with the goal that the students will teach and question the instructor by the end of the course. I could have written this curriculum to be easily adopted by other teachers, that's very much part of my training in over ten years of curriculum writing for Group Publishing. Yet that would miss the very point of my course. It is not enough to adopt someone else's ideas; they must be adapted and then used as inspiration to create one's own.

Perception-based creativity with ethics at the center must include acknowledging the source of the ideas. This reminder to name the source is not to ask for personal credit or mention from any teacher who might use my curriculum as a whole or in part, because after all, the original source of credit for this curriculum is the graduate Critical and Creative Thinking program at UMass Boston. However, I believe that use of my curriculum whether adopted, adapted or created must be for the promotion and benefit of CCT to encourage students to explore that program. Quite simply, to use this curriculum, I feel that the implementer must "payback" CCT for its creation in some creative way.

Other Avenues of Applied Creativity Education

Having one road into CCT from this curriculum would be inefficient and lack creativity. There are several other ways to promote and benefit CCT from the use of this curriculum such as

workshops, online adaptations, interactive e-books, computer "apps" or a paperback textbook.

For a workshop format, the general themes of "adopt, adapt and create" would carry over quite well. The implementation of the activities would work, although in a condensed format much of the readings and assignments would be eliminated.

In a college setting, a workshop could be a test vehicle to help refine some of the activities for the needs of the specific community. This could be an adaptation directed to a demographic such as education majors, at risk freshmen or students in exploratory sessions of an orientation program. The natural inclination might be to start with the programs traditionally viewed as "most interested" such as an honors or fine arts programs, yet I am teaching that creative thinking skills do not just belong to these groups and so would prefer to focus on others first.

Although this may be offered in the church or business setting, a constituency connecting is required to discover the mindset of the group, especially which kind of resistance and concerns. This would likely include the need to discussion oriented presentation. Tailoring to the group is vital.

While a variety of workshops might bring diversity to CCT, it is also important in the future to offer workshops to those who might not in any way benefit or promote CCT such as the elderly or homeless as a way to "pay forward" as well as learning from these participants.

I am one of the first completely online CCT graduates, so I have a sense of responsibility to impart some of my learning and insights into the best practices for this growing form of education. My classmate Noreen acknowledged that "it is probably easiest" to get a new college class approved if it is an online course (personal communication, March 26, 2013) and she used this route for her curriculum. Ironically, she took our Synthesis class face to face and wrote an

online curriculum while I, as an online student, chose to write a face to face course. Creativity sometimes involves choosing the unlikely path.

While my graduate experience has included online asynchronous sessions, online synchronous meetings with Wimba, Skype and Google Hang-out as well as "hybrid" classes that were synchronous with a "face to face" classroom, there are benefits and drawbacks for each that I must evaluate for improvement.

My course is designed to be "learner based and interactive" rather than content transmission therefore there is an acknowledged workload increase on the instructor. This compounds the main problem in higher level institutional policy and administration which is a "failure to recognize extra workload" and "how time consuming online teaching can be" (Gonzalez, 2009, p. 307).

One of the models for using the web, "networked learning" (p. 309), includes all of the types of online experiences I described having within CCT, both asynchronous and synchronous. Yet Gonzalez concludes that this success for online teaching is very related to the "indirect impact" of the influence of the institution with the "pressure to adopt" online teaching but without necessary "changes in pedagogy" (p. 313) or, he implies, support structure (p. 307). There is also an impact on success of any online approach linked to the "nature of the student" (p.313).

Some research into the online best practices include ways to establish a "community of learners" early in the online experience as well as designing a plan to identify and deal with potential problems (Tallent-Runnells et. al, 2006, p. 97). Suggestions for individual self-pacing were contradicted in part by studies that showed the preferences for students to have more interaction and feedback as well as collaborative problem based learning (p. 98). When online

learning is "viewed from the Vygotskian perspective" which requires social interaction, "the shallow level of participation" two not impact learning unless students' "current view of knowledge is challenged, reformed and synthesized through interaction with others" (p. 100).

Adaption of my curriculum would have to start again from the theory to a new implementation in order to address these and many other issues of online experiences. Looking at self-directed learning from another vantage point might come first in order to build up to an online course. This could be accomplished with the interactive e-book. In one of my graduate classes, I explored the relatively new "interactive e-book" field. This led to some utilization of the software available and an appreciation for the work it would take to become a published author in this setting. One of the advantages of this mode of presentation is that I have some experience in book promotion and the marketing required to find and to target potential readers. Learning as a self-directed process would be facilitated, yet I would need to be very intentional about the necessity for some collaborative elements, whether connecting these e-book users with activities or with the reflections and communication needed to process the learning.

The most creative way to help CCT might be the computer "app." Though colleges and universities offer free courses, offering free creative thinking tools and forums to practice these skills might be even better. Like the e-book, the distribution can be over greater areas for less cost than the traditional methods of promotion. The people most likely to be attracted to the tool would also be the most natural candidates for the CCT program. Just as websites advertise within the service rendered, simple promotion included here might be introductory video or even an invitation to a CCT Open House on a "live stream" website similar to the one my church uses for its Sunday services. Participation in the CCT Open House with a Google Hang-out "join" invitation could even be "earned" through use of the app or an e-book.

At some point I hope to write a book, but only after the curriculum is implemented and refined so that the constituency connecting might have more merit and momentum with proven success.

The point of this is not to promise all of these avenues, but to seek which might connect best with multiple constituencies for optimal results. In a way, this process of offering these multiple ideas really goes back to the first chapter of invention like a cycle in order to start creating something new again.

Living Applied Creativity

I am going back around to becoming a fully self-directed learner and this may require even a newer kind of creativity. As part of the accountability asked of the students in their final assignment, they will describe their future plans to pursue to use what they have learned. This is designed to increase and enhance creativity. In order for it to be part of their assignment, I will do this assignment myself now as well as then as my own accountability. "The most creative product tends to appear during the time of most productivity. Paradoxically, "slowing down and focusing on one work makes a person less creative" (Sawyer, 2007, p. 99-100) so working on multiple projects should inspire greater creativity in me.

Some of my future plans include going back to fiction writing, as part of joyfully admitted self-actualization. I want to see the difference in my work after a deliberate and very long self-imposed hiatus in order to focus on CCT classes. I may even find some "Inklings" to be there for me; or rather I need to say I should and have to find some now.

Even though a student, I have been teaching these past eighteen months and that side will continue whether in church or in some way implementing this thesis. Any teaching helps me

learn and I'll be more adept because of my CCT education. It will be a "paying forward" responsibility to continue the "teaching mind" not only for my own lifelong learning, but for others as well.

There is also an action research project unnamed until now due to the timing and the circumstances which meant I had to set it aside until after graduation. I've answered almost all questions asked of me while in CCT, whether from teachers or students, save this one. A fellow student gave me a reason to pursue some sort of tangible invention, some innovative created product or hands-on activity outside my writing and teaching comfort zones. He challenged me by asking pointedly, "*What do you know, my dear Teryl, about the washer woman in Bangladesh or what have you done to help the farmer in Chile?"* I'll find a creative response someday and somehow, for after all, my faith says be "light," and the UMass Boston symbol is a "beacon." Create-Change-Transform. CCT.

APPENDICES

GRADING RUBRIC 1 (SAMPLE ALSO GIVEN TO STUDENTS)

NAME _____ CLASS _____ DATE _____

ASSIGNMENT ASSESSMENT TOOL

1 POINT FOR "X"	WORK (WRITTEN, VERBAL, VISUAL) ASSESSED AS FOLLOWS:
	IDEA OR PRODUCT CLEARLY STATED NOTES/KEY WORDS:
	IDEA OR PRODUCT CREDITED FOR ORIGINAL SOURCE/INSPIRATION NOTES/KEY WORDS:
	IDEA OR PRODUCT IMPLEMENTED OR EXPLANATION HOW TO DO SO NOTES/KEY WORDS:
	IDEA OR PRODUCT USEFUL OR SHOWN AS RELEVANT TO PERSON NOTES/KEY WORDS:
	IDEA OR PRODUCT PROCESS REFINED OR DETAILED NOTES/KEY WORDS:
	IDEA OR PRODUCT EXPLANATION OF EFFICIENT OR BEST PROCESS NOTES/KEY WORDS:
	IDEA OR PRODUCT IS CONNECTED TO OTHERS WITH PERSUASION NOTES/KEY WORDS:
	IDEA OR PRODUCT IS CONNECTED WITH CONSTITUENCY BUILDING NOTES/KEY WORDS:
	TURNED IN BY DEADLINE (FOLLOW THROUGH IN ALL FOUR AREAS) NOTES/KEY WORDS:
	EXHIBITS QUALITY IN PRESENTATION (NOT JUST TO GET DONE) NOTES/KEY WORDS:
	TOTAL POINTS (OUT OF POSSIBLE TEN)

GRADING RUBRIC 2 (SAMPLE ALSO GIVEN TO STUDENTS)

NAME _____ CLASS _____ DATE _____

ENGAGEMENT ASSESSMENT TOOL

1 POINT FOR "X"	PARTICIPATION ASSESSED AS FOLLOWS:
	ATTENDED CLASS AND WAS ON TIME (Partial point if leaving early) NOTES:
	PARTICIPATED IN ACTIVITIES AND COMPLETED THEM NOTES:
	PARTICIPATED IN DISCUSSION AND ENCOURAGED OTHERS NOTES:
	PARTICIPATED IN INDIVIDUAL WORK (Example: Think Sheets) NOTES:
	PARTICIPATED IN LEADING/TEACHING (Examples: Added ideas for improving class or modeled creative action) NOTES:
	TOTAL POINTS (OUT OF POSSIBLE FIVE)

4 CREATIVITIES RUBRIC

NAME _____

CLASS _____

DATE _____

Instructions: Evaluate the assignment, using this rubric to jot key phrases or examples of each one. You may also use visual symbols as long as you can explain any when asked.

What is the IDEA or PRODUCT? (Inventor)	How is it IMPLEMENTED or EXPRESSED? (Pioneer)
Where is it REFINED or DETAILED? (Engineer)	How is it CONNECTED or SHARED with others? (Diplomat)

NAME _____

CLASS _____

DATE _____

4 Rs RUBRIC

Instructions: Evaluate the assignment, using this rubric to jot key phrases or examples of each one. You may also use visual symbols as long as you can explain any when asked.

RESPECT Where/how do you see this?	**RISK** Where/how do you see this?	**REVELATION** Where/how do you see this?	**RE-ENGAGEMENT** Where/how do you see this?

ATBL TOOLS (GIVEN EACH CLASS PERIOD)

NAME _____ CLASS _____ DATE _____

You are asked to record the thinking tools (symbols and brief descriptions preferred) that you have considered during your problem solving process. Please record results of trying them as well. You will turn these in each four weeks so that copies can be made, compiled and saved for future classes to use as ADOPTED tools in which they will be required to credit you by name as their source.

Adopted, Adapted, Created Tools	How used/results

ATBL INDIVIDUAL REFLECTION (GIVEN EACH CLASS PERIOD)

NAME _____ CLASS _____ DATE _____

You are asked to record the words and actions of your teachers, classmates or others outside the class that best help you to be and stay creative. This record will be reviewed briefly by your instructor during the semester, but is for your benefit—you will need to know who to ask for encouragement and what kind you need as you develop your creative process and products.

Who/date	Helpful Words or Actions	Why/How helpful to you

Beulah Louise Henry Reading
from CCT 602: To use with 4 Creativities Rubric

PROLOGUE (Assignment/artifact from "Moment in Time")

The curtain rises to show a study in disarray. As the light pans stage left to right, an open tool box sits beside a wooden box with toys. The paper strewn desk sits center stage with a seated figure arms and legs straight to resemble a doll beside an early typewriter and a pile of buttons. The light continues to illuminate several colorful open umbrellas on the floor near an empty bookcase and empty easel. The spotlight returns to the center and the 'doll' (a petite child) turns to look at audience and then scrambles behind the desk. After peeking over the desk twice as if playing "peekaboo," the 'doll' scoots out and stands to address the audience.

DOLL: *(motions to audience)* It's okay, you can come in. There's no one in the room but me. She won't mind, I promise. Look. See that picture on the wall? That's her, that's my creator, and that's me, a real doll. She did not have any kids or husband, so I'll tell you about her. Some people call her "Lady Edison," but her real name is Beulah Louise Henry. Besides me she invented over one hundred things. My name is "Miss Illusion." I have eyes that close and change from blue to brown and I can change my hair color too. And my dress is reversible, see?

I'm supposed to tell you that she is de-scended from Patrick Henry and her grandfather was a governor, but what does *that* tell you about *her*? And her mummy and daddy work with art and her brother's a songwriter, but my lady, now she is an inventor. She says all you need for inventing is "time, space and freedom" and she invents "because she cannot help it."

Come here, let me show you. *(Crosses to toy box and sits, pulling items out as she talks.)* Okay. This is the Kiddie Clock. It teaches kids how to tell time. This is the sponge that opens and snaps shuts to put soap inside, this is the other doll with springy arms, and the poodle doll and this is the board game and this is, well, I do not know what *this* is. *(Stands and crosses to type on typewriter.)*

Grown-ups like the other stuff anyway. You like the typewriter that made copies before anything else could and the sewing machine without bobbins and the sound maker and the mass mailing envelopes all attached to each other.

I like the ice cream freezer. That was her first invention in 1912. She was 24 and she had just finished college in North Carolina. She had 49 *official* patents and 50 years of inventing and two corporations right here in New York City.

(Fingers buttons and pours them back and forth in her hands.) See these buttons and soap, the tape and rocks and hairpins? That's what she makes models of her inventions out of. She sees the inventions all done inside her head and tells people and they make her ideas into the things for her. She also sees sounds and hears colors, but I do not know how you do that. I'm just a doll.

She loves to paint and write and wishes people knew that 'cause she says "literature and art are far above things mechanical." That makes me laugh 'cause Miss Beulah did do art when she made us and we inventions talk about her life better than any old book. Why, you can see her story in right here this room. All her life she worked—first on things for women and then kids and then business men.

Hey, I almost forgot. I wanted to tell you about the umbrellas. They're important too. This one time, a long time ago, somebody told Miss Beulah it was impossible to change the

coverings on umbrellas to match ladies outfits. It's almost as if I can see it all happening again right here and right now…shhh, here she comes now.

"Miss Beulah, why are you so mad at that umbrella? Miss Beulah? Oh, no, you ripped it. It's all broken. Here, wait, I found a needle, maybe you can sew it back together. A nail? You want a nail instead? You must really be mad to be poking holes in it too. Soap? Are you gonna clean a broken umbrella? Oh, I do not think soap's gonna plug that hole, especially when the umbrella gets wet. What is it? What are you making? Well, I do not know; you have to tell me. It looks like a snap with a hook thingy to me. Oh. It's *an invention*. All from a broken umbrella, soap and a nail? That's silly, Miss Beulah."

But Miss Beulah--she got $50,000 for this invention that the biggest men in the umbrella business said could not be done. That Miss Beulah. She sure showed them! She is the one who said, "If necessity is the mother of invention, then resourcefulness is the father."

I do not know what else I'm supposed to tell you. So let me sit down and let you talk. What do you want to know about my lady?

"Giving Up Reflection"
from CCT 688 Reflective Practice: To Use with 4 Rs Rubric

"One of the themes of the presenters in this week's program open house was the development of one's personal enterprise - acknowledging a personal strength/interest/need and moving it from a personal endeavor to one that has the potential to reach new audiences or spread further to clients/students/family/communities. When you think about the process of making this happen, what comes to mind? Consider any kinds of interests/passions/ideas that lived only in your mind for some length of time first, but such that after some time passed (maybe even years), you realized that the idea was important not only to you but also potentially important to others, and you became ready to take action to bring the idea to life more concretely and engage others along with you. What do you think caused you to take the leap between the idea and the implementation? (personal communication, Jeremy Szteiter, March 8, 2013)"

This is my answer (assignment/artifact):

The best way to implement an idea is to give up. Giving up is separation, it is not seeing the idea as you or you as just your idea. The idea is part of you, almost like a child, but it is not all your worth and it is not in control. If you discover your idea has been done by others, giving up ego means that you can still do the idea since no one can do it exactly like you, but it may also mean giving up the need for accolades or pay.

You must also draw a line as if on a blank white sheet of paper. To know what you would give up for this idea, you must know cost and stay true to your values. You must believe the idea is important to you and to others, yet you must also research your belief to know. Are you willing to give weeks, months or years of persistence? Are you humble enough to seek training and wise enough to give as you've been given? Are you willing to pay in dollars and in private time? Are you able to re-adjust the idea, re-engage it if the timing is not right, re-locate yourself or even reject this idea as it currently exists if you need to trust that there is room for better by doing so? What comes to mind is worth—why this idea for you?

I believe there are four kinds of creativity. The one most celebrated is the creation of an idea, but it takes creativity in the process of implementing it. Ideas are "a dime a dozen," yet few exist as product. Creativity in producing an idea requires finding the best way to for you to move from a dreamer to doer. It may require giving up the idea to others, whether letting them be the doers, whether in collaboration as a team or giving up the idea's secrecy by sharing it openly. This last one, speaking the idea aloud, provides accountability and even a partnership, for when someone else knows your idea, you give up the fantasy of it to start to examine the reality of it.

Other kinds of creativity also come into the idea implementation. You must be creative in the "nuts and bolts" details and you must also be able to connect. By being creative as a critical thinker to analyze the idea and yourself, your focus and discipline can evolve the idea through the littlest details to be efficient and adjustable. Connecting as a kind of creativity is not just connecting your idea with other ideas, but connecting other people with your idea. It is persuasion in some sense, yet allowing relationship building in another. Idea implementation is more than the end, more than the product.

These are common sense, easy to say, but do not completely answer the question of how and why to take the leap between idea and implementation. Your own past can help because any

success or failure can offer lessons and motivation. Encouragement and a support structure can help because any interest or passion that makes you "you" owes something to environment. What has caused me to be ready to bring ideas to "life" is not just past and present though, but a willingness to picture and engage with an uncertain, yet possible future too.

But I still have to come back to the line on the white piece of paper. It reminds me of the stories of the Midwestern blizzards in pioneer days. In white out conditions, a rope to guide you was the only means to get you home. All you had was a line. And when there is that perfect storm, white out conditions where you cannot see ahead or behind you, when work consumes the time and talent meant for your idea, when life's distractions and detours take your heart out of you and when your idea itself lets you down, all you have is what you hold onto. Because this will be the exact time when your support structure does not seem to be there and the past victories or lessons do not matter. It always happens unexpectedly, and for me, it happened again a few weeks ago. You just need to remember that it can happen and it can knock you to your knees. All you will have is your lifeline and you need to know what that is.

Pioneering an idea means defining your particular process and need in order to take whatever small steps will keep you going in the right direction. The smallest step forward is still progress, even if only a "to-do" list. Eventually the storms do subside. Taking a leap requires more than belief, it requires faith. Not in the idea, but in yourself with the implementation. Taking a leap means giving up—giving up fear and doubt.

What do I think caused me to go from being ready to actually doing a dream? I had to do it. I knew that I had to do it. Step by step, patience with efficacy. I also knew it was not the idea that was important, it was not the implementation, it was me. There is so much to learn and become with ideas and with seeing them through, it is your chance to create and give "life." But always, ideas and producing them are only part of transformation, only part of you, no matter the outcome. And each time, I have to go through this process to know this again.

ADOPT, ADAPT, CREATE MODELING OF SKILL

ADOPT:
Dr. Larry Speck, University of Texas Austin, teaches Creative Problem Solving using "think sheets." Think sheets are similar to a literature review, except that students write "what thoughts were provoked from the reading" even if these deal with personal matters or connections that are not in class. This is meant to stimulate his own creativity and because Dr. Speck stated that he'd "much rather read what students are thinking" than just summaries about the books and articles he's already read. It is important to get students to stop worrying about what they think the instructor wants them to say to share what they are really thinking (personal communication, January 10, 2013).

ADAPT:
Adapting a chosen idea or concept requires modeling. These are some examples of how to do this. Give a reading and then model from reflective practice. (I am using this reading since it is unlikely to be presented again in a class due to the nature of the Open Houses which tend to invite different speakers.)

www.brandeis.edu/global/news/stories/preetainnovationbrief

In the reading, I chose words or phrases important to me such as –frugal innovation, the title of the article and then one practical how to listed in the article. I also look for images, since sometimes that can help structure the creative thinking tool. It is important not to force something too much as a metaphor because it still has to have meaning to you. One reason the pyramid has meaning to me, for example, is that I once designed a game originally called "pyramid Sudoku" and now is meant to be an app called "Cheeramid" instead.

How is reflective practice useful and innovative? In the business model given, there was a suggestion of using a different scalability. Instead of a "higher profit margin," they suggested more "volume." Extending this to reflective practice then, my connection is that I should generate more and smaller ideas to be able to combine and re-purpose (which explains the wordiness of this answer to the questions) rather than the fewer big ones.

What if reflective practice used a pyramid model of building on the past to make something new out of something old? So, in a reflective practice journal, there would be three days of reflective writing on a topic and then two days of re-purposing reflections after re-reading these days' entries and finally a one day reflective thinking synthesis of those two days' worth of re-combinations, changes and additions. This could be a constructing "frugal innovation," sort of a "scaling up."

CREATE:

Example of my "created" tool inspired by a physics video: this is linked by the "creativity in a box" concept which emphasizes using what you have to do what you have to do—tying into my personal story by concept.

Some people are better at coming up with ideas after they see what the problems are first, so we need to give them a chance to share their creative ability too. Watch the video for this link:

http://www.thisiscolossal.com/2013/01/a-wooden-domino-tree-by-qiu-zhijie/

From website: “The basic premise is that any domino can knock over another domino that’s roughly 1.5 times larger, meaning that if you gently pushed a normal sized domino into a chain of bricks that increase in size each time by 1.5, the 32nd object will be large enough to topple the Empire State Building. In the video example above it takes only 13 dominoes starting with an object the size of a bean to knock over a 100 lb. slab!”

Explanation: There is momentum potential if we list our problems as if brainstorming, rank them smallest to largest and then tackled the smallest problem to largest in a sequence. (Using the engineer creativity)

ADOPT, ADAPT, CREATE: MY PERSONAL STORIES TO SHARE

Adoption Story:

When writers look for a home for their books, they have to find the right company. I had been through many rejections, but for my first novel was more persistent in collecting these letters than with my short stories and plays. I received four rejections outright and then got what I thought was a break. I was given the chance to rewrite my submitted first three chapters to meet some specific needs and formatting requirements of a certain publisher. I adopted their standards and resubmitted.

It was painful to receive a double rejection from the same publisher, but even more so when the double rejection (resubmitting and re-rejected) happened next from a literary agent. The third time I received the offer to rewrite my first three chapters to meet a different publisher's needs and story requirements I almost did not do it. But again, I adopted this publisher's ideas for my novel and resubmitted. I got the go-ahead to submit the whole novel with the same requirements before finally getting the coveted acceptance email.

The point is not just persistence, it is not that you have to adopt other's ideas over your own, but that you decide each time what you are going to do. Since then I've gotten Easter plays accepted by the same company that rejects my Christmas ones. I would not adopt their format for Christmas, but my format works for Easter. When we adopt other's ideas, we have to know why and for how long we'll try them. Adoption in this sense is not family thing or even an obligation to keep. It is to adopt and to persist only as you decide.

Adapting Story:

As a substitute teacher I had the rare privilege of teaching in the school system I grew up in and of teaching in the classes of the teachers I had once. It was very strange to sit in the lunch room with them as a peer and suddenly know them as people and friends. At first I tried very hard to follow their lesson plans, but I had to remember I became a teacher to change what I saw wrong with education, not just to emulate what was right.

It began slowly—first an extra game or a lesson on how to draw Homer Simpson. Then I created "MacGyver" problems, fun little challenges in which the kids got to use creative thinking. I went on to storytelling, first Brer Rabbit and (in the fall) my version of Sleepy Hollow before finally getting to my own stories of "The Fox" and of the "Dinosaur who Loved Peanut Butter Crackers." I taught them origami and science tricks, fun math and worksheet play.

Being a "sub" meant not being "below par," but working under the surface of the school system to bring back joy in learning, to take the kids that were mine for the day on an adventure of what school should be. It took these small steps to finally start adapting the actual lesson plans in the book. It takes a lot of courage to adapt a lesson to you and the students without knowing if your method will be better for the students than the ones set down by someone else. I only knew I had to adapt, because I could not teach like the regular teachers, even my heroes, I could only teach like me.

Creating Story:

There's a difference in creating tunes and lyrics for yourself and doing it to perform for a grade in front of an audience on an instrument you do not know how to play. I was required to take a music class to get my degree since "every elementary teacher should know how to play the piano." Through my own preference throughout childhood, I had little formal musical

background and could barely read music. The professor went through his course quickly since I was the exception to my peers. The final assignment was to create an original song that could be taught to children and followed the rules he gave for the length, chord changes and range of notes. He was not approachable for help; basically he told us how to sign out the rooms with the pianos to practice.

The lyrics were no problem, even if my sense of humor was. I chose to adapt a folk tongue twister my grandfather taught me which was a subtle, but clever rant about what a teacher teaches a child. I appreciated the irony of a teacher teaching children to sing it, but doubted the professor would if he realized the rant could apply to him. I next labored over creating my original tune in order to follow the rules without displaying my lack of piano training—and I practiced quite a lot.

I was to play near the end of many lengthy and elaborate performances. I did so, and, as required, sang my simple song while playing it. The professor paused and said slowly, "Do you know what you have done? I do not think you realize what you have done; you *cannot possibly*."

He spoke even more loudly and sounded pleased, "You do not know, do you? *You* have made the only song here that even a tone deaf child could sing."

In that moment, I realized *he* did not know what I had done.

CONCLUSION

Epilogue: Full Circle

"The Homestead" is a patch of acres in the wooded hills above the Susquehanna River which is still in my family. It was where my ancestors first settled in western Pennsylvania, though the roads to it are still not paved. It is called a "strippings," some unreclaimed coal mined land where stubborn, but dying popular forests still try to grow from the barren rocky floor and the grassy fields that do grow are strewed with boulders. It is just as easy to sit and break apart shale slabs to find million year old fern fossils as it is to pick the wildflowers.

The first time I came to the Homestead I was thirteen. And I immediately went off from my family on my own to unknown roads, drawn to an inspiring view of untouched wilderness. From the woods and road leading to road I came to a very green field in the shape of a bowl.

And that is where the road abruptly ended. There was no path where there should be, no reason for it to stop at the most promising part. And this is where I hesitated. It was not so much too many choices of where to step next, but why to make the choice.

I could not stop wondering why the road ended. Had the road builder grown weary or discouraged? Had he seen enough? Had he left the road for someone to finish as a gift for someone to find or had he not wanted the wilderness tamed and the rest of the road ever made?

It was too much that day for me to decide; I was alone and no one knew where I stood. I was thirteen. I turned back and regretted it, but I was not ready to make my own road yet. It might seem a little thing, one turning in the road and if you do not understand, then it's hard for me to explain, except that I did not forget that road. I did not forget.

We went back to the Homestead intermittently as I grew up. There were other more

accessible places for family gatherings with all my cousins as we grew. There was less time to hike on your own when asked to play softball or look after the younger ones on their fossil hunts. But I still remembered the road not yet made.

Finally one day I stood again at the end of that unfinished road; I found it again. That is another story, of how and why, but all you need to know, I've told you.

Robert Frost, you were wrong about road leading to road and probably never getting back. Regrets are not forever, there are second chances. I came back. All you need to know is that I came back. I came back.

I've come back.

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