There is a crack in everything. That’s how the light gets in. – Leonard Cohen
UNTANGLING THE RELATIONSHIP BETWEEN
CREATIVITY AND MINDFULNESS: ONE TEACHER’S
EXPERIENCE OF THE MEDITATION INHERENT IN HER
CREATIVE PROCESS

by

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Abstract

Creativity is emerging as a desired outcome of education in Canada as it becomes clear that it is one of the essential skills needed to survive in our economic future. Mindfulness is emerging as a new way to help students cope with the pressures of school specifically as student mental health issues are on the rise. Mindfulness has also been shown to help students of all abilities engage in more meaningful and effective learning in a time when our schools are fully inclusive. In this arts-based auto-ethnographic study, I inquire into the links between creativity and mindfulness as I have experienced them throughout my personal/ professional life and through my own art making. The findings reveal that my creative practice is embedded with two types of mindful meditation: open monitoring meditation and focused meditation. The results of this study have implications for my personal creative practice as an artist, my practice as an arts educator (both in how I approach the curriculum and my pedagogy), which ultimately affects my students. I believe that further enquiry into this relationship is important. It not only adds to the growing body of research on both of these emerging topics, but also, and perhaps more importantly, benefits our children as this research will contribute to our knowledge of valuable curriculum in our public schools as they seek to meet the changes and challenges of our developing society.

**Keywords:** Creativity, Creative Process, Creative Development, Mindfulness, Open Monitoring Meditation, Focused Meditation, Arts-Based Research
Dedication

This work is dedicated to my parents (Elisabeth and Richard Reinders) who are responsible for instilling within me a love of education and of art, and the confidence to believe I can do whatever I set my head, heart and hands to. My desire to learn, grow and develop throughout my life is continually inspired, encouraged, and supported by my father whose passion for life, and love of the people within it, constantly radiates from his beautiful soul.

-Thank you.
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Chapter 1: Introduction

My Story

I am creative. I am an athlete. I am a teacher. I am a wife. I am a mother. And now I am a researcher. This is my story.

I am a child. I love to draw and paint. My parents give me art supplies for my birthday and Christmas gifts. As a family we go to the beach, we sail, we ski. We need a new fridge (ours broke). My mother buys a new painting instead (she really loved it!). We live out of a cooler until the next pay cheque. Lesson learned: art is more important than food (well at least cold food).

I am an adolescent. I still love to paint and draw. My parents give me art lessons. As a family we ski every weekend in the winter. I take lessons. In the summer I take swimming lessons and tennis lessons.

I am a teenager. My talent and passion for art is recognized by my teachers. They give me extra enrichment projects and recognize my work in art exhibits. I ski every weekend in the winter and learn to snowboard. I am asked to teach skiing at the local hill. I pass the National Lifeguarding Service Award and begin to lifeguard. I take the Lifesaving Society Swim Instructor course and begin to teach swimming.

I am a young adult. I leave home and attend the University of New Brunswick - living on my own for the first time. I study general arts becoming particularly interested in classical history and applied arts. I pass the Canadian Association of Snowboard Instructors level one course and become a snowboarding instructor. I begin to work at the University Art Centre. I fall in love (that was not in the plan!). I graduate with an honours
in Classical Studies and a minor in Applied Arts. I have no time to attend graduation – I am off to study abroad in Turkey.

Upon my return my mother is diagnosed with Cancer and dies within the year. Now I feel the truth and weight of growing up. I reflect upon my life up to this point. I reflect on my mother’s life. The best mother and friend in the world. I reflect on what she may have given up for me in order to orchestrate the perfectly balanced life that I have had. She was a teacher and a giver. She was one to put other’s lives before hers seemingly without regret. She touched lives and was loved and admired. I reflect on my purpose in this life. The New Brunswick Museum asks me to teach their weekend art classes. I know that I am meant to be a teacher. I have always been a teacher. I go back to school and earn a degree in Education I begin my career as an art teacher. I touch lives.

I am 29 years old. I teach art at Leo Hayes high school in Fredericton New Brunswick. I coach soccer, swimming, and triathlon club. I have married my true love. We decide to have children. Everything I know screeches to a halt and my whole life changes. My life begins to spin out of control. There is no longer time for me, or my husband, certainly no time for ‘us’ together. Even my work is affected; I no longer have time or energy to coach. My life has become unbalanced. How do I get it back?

I reflect on my mother. I see things I did not see before. She worked part time to be able to parent. She began studying for her masters but never finished. Her priorities lay elsewhere. I do not want to sacrifice myself for others, yet I still want to give the best of me to them. There must be a better way. A more balanced way to do and experience all the things that I wish to. I want to be the best teacher I can be. The best mother and wife I can be. I want to be the best me I can be. I don’t want to lose myself. I don’t want to be
pushed to the point of exhaustion every day. Living my life on the edge of control of emotions and the edge of happiness, wondering if all the good parts of life have gone past. Putting in time doing what I think I am supposed to do for my family and students, what other people expect of me. Losing sight of what I expect of myself.

I am 39 years old. My mother died when she was 50 years old. 11 years older than I am. I am keenly aware we only live once. I want to do it well and enjoy it well. I decide to go back to university. I had always planned to get my Masters. In fact I had wanted to get my PhD as well and even teach at University. It is time to revisit myself. The creative in me desires and endeavors to live an aesthetic life. A life in which every part of it is enjoyed for the simplicity of what it is. But how can I enjoy such a thing when the demands on myself are so great? When there are seemingly too many parts to even fit in and attend to, let alone enjoy?

I attend a professional development workshop on mindfulness and its benefits to students in our schools.

I pursue my Masters in Education in Curriculum Development. I began to see how my own creativity encompasses my true self. Even though my education adds to the weight of my already demanding life, the participation in the creative endeavors that it allows is rejuvenating. As I learn more about creativity and in particular my own creative process, I feel sure (in a way that someone knows without knowing how they know) that my own wellness is bound to my creative process through mindfulness. I feel sure that when I practice creativity I am more grounded, happy, and able to appreciate my life and its experiences (good and bad) to a greater degree than before. How could adding more to my life help me with the already crazy business of it all? I feel compelled to untangle
this relationship between my creativity and my mindfulness. I see it as a great benefit to sorting out my own life. But I can also see how untangling this relationship between creativity and mindfulness could improve our understanding of both individually. I began to see the benefits not only to me and my students of uncovering results, but also to creative arts curriculum and mindfulness curriculum.

And so it begins…

How we manage to see ourselves and the world at this juncture will make a huge difference in the way things unfold. What emerges for us as individuals and as a society in future moments will be shaped in large measure by whether and how we make use of our innate and incomparable capacity for awareness in this moment. It will be shaped by what we choose to do to heal the underlying distress, dissatisfaction and outright did-ease of our lives and of our times, even as we nourish and protect all that is good and beautiful and healthy in ourselves and in the world. (Kabat-Zinn, 2005, p. 1).

I am 41. I reflect on the many events and experiences in my life that have brought me to this research. My values instilled in me by my parents. No wonder I value art. My mother bought a painting instead of a much needed fridge! I feel lucky to have been raised in a house where spending hours drawing or reading were valuable hours spent, not seen as a waste of time. My mother was an amazing teacher, leader and manager. She created a life that was balanced. I believe she instilled in me all the qualities that I needed for success and happiness. Upon reflection I can see that I grew up on mindfulness. Experienced it unknowingly for years. I lost or forgot how to achieve mindfulness. Whether it is the growing demands on my time and life, or the rise of cell phones and
data plans I cannot say. I can say that I wish to get the benefits of mindfulness back in my life, and as I reflect on my memories of past experiences, I begin to see where I might just find what I am looking for.

**Memories of Past**

It is through the memories of my past experience that I made the first concrete connection between creativity and mindfulness.

**Memory one.** My first memory of experiencing mindfulness while creating art was when I was 15 years old. In art education learning how to draw using a grid is a standard activity. I learned it when I was in school and I teach is now, as an art teacher, to

![Figure 1: Grid Drawing of Sinead O'Connor by Mariecke Leavitt, 1990. Graphite on paper, 24" x 18" (61cm x 45.7cm).](image-url)
my students. The process is simple: Take a picture and draw a grid over top of it, effectively dividing the picture into smaller parts. Using a grid of the same size or ratio on another blank sheet of paper, you begin to draw square by square focusing on what you see in each square only. The idea is to break the drawing into smaller more manageable parts. Also, what you are drawing in each square might just be a jumble of unidentifiable lines and shades that your brain cannot define. This too helps with the drawing process, as it allows you to truly see what is there, rather than assume you know what is there. This helps the artist to develop observational skills and to be accurate in copying over the image. As a student in grade 10, I did one such drawing. I chose a picture of Sinead O’Connor and enlarged it (Figure 1). I remember having to bring it home to finish. After supper I cleared the dining room table (as this was the only table big enough for me to draw on), put my headphones in, and got to work. I became completely absorbed in my work. The surreal feeling I had when I finally finished my work, the house, quiet and dark, is one I will never forget. It was past midnight. I had been so focused, I had lost all track of everything going on around me, including time.

**Memory two.** I have worked with many talented and experienced art teachers. Their teaching and artistic skills were inspiring. I had a colleague who was a known and successful watercolourist in town. Teaching alongside her inspired me to improve my watercolour painting skills. One summer, I decided to paint every day, practice for improvement. And so, every morning that summer, I grabbed my supplies, and a coffee, and painted for a designated time. Usually it was flowers from my garden. I started small and simple and didn’t concern myself with the completion of a painting so much as with the process of the practice. One day in particular I remember I did not paint flowers. This
day, I had received a package from my brother, who at the time lived in Calgary. He had sent photos of my baby niece. In one photo my niece looked so much like my brother that I felt compelled to paint her (Figure 2). My plan was to do a little painting before moving on to other plans for the day. Again, I lost all track of time, and painted into the afternoon. Finally, my husband interrupted me to ask if we were still going to do what we had planned for the day. It turns out we cancelled our plans and I finished that painting.

**Memory three.** As an art teacher I have noticed my students having similar experiences as those that I have mentioned above. It is common to hear students in the art room say things like “This class goes so fast.” or “I can’t believe it is already time to clean up.” Wondering where the time went is an indicator that they too get lost in their art making and creative practice. I believe they are experiencing what I have experienced. I remember one specific incident where the whole class was completely engaged in their work. You could hear a pin drop the class was so quiet and focused. A colleague came in to borrow something and quickly apologized, saying: “I am so sorry- Are they writing a test?” Their intense focus was
recognized not only by me, who might be biased, but also by an outsider to my classroom.

**Memory four.** As I reflect on my experiences with creativity, I remember an experience with mindful meditation that linked to my creative practice. I have always known somehow that my creative practice was linked to my physical and mental well-being, but in the following story this deep rooted knowledge surfaced in an unsuspecting way. I teach a grade 10 class called Personal Development and Career Planning and during one of my classes on wellness I invited a colleague, certified in teaching yoga and meditation, to guide my students and myself in a meditative yoga, after which this colleague guided us thought a meditation. Near the end of this guided meditation she had us imagining ourselves going down a very long set of stairs, and once at the bottom, though a long corridor to a door that opened onto our very special safe and sacred place where you can feel completely calm and safely be yourself. As I walked towards the door I imagined what would be behind it. A sunny beach? I love the beach and water and find it very relaxing…what would this beach look like? Then naturally I worried that my imaginings would have an influence on what I would see and ruin the authenticity of my experience, so my mind wandered to that worry. When I finally arrived at the door, I didn’t recognize the door. But when I opened it I was surprised. It was not a beach, even though I had planted that seed in my own mind. I saw, instead, my art studio in my very own home. Though the door was different, everything else was the same! Even the scene out of the window, which got me distracted again, wondering: why my subconscious didn’t even put that wonderful beach scene out the window at least? I felt after this experience that my assumptions, or inklings regarding my own mindfulness and mental
health linking to my own creativity were confirmed or somehow more valid. My subconscious, even with interference of my conscious, still put my safe special place, where I could feel completely calm and well and be myself, in my art studio in my own home. It also helped reassure me that I am truly on the path that I am meant to be on. Not only in my research, but also in life.

The Inquiry

What is the relationship between creativity and mindfulness? Are there similarities in the qualities of a mindful state of being and a creative state of being? I propose that aspects of mindfulness are inherent in the creative process and likewise that there are traits found in creativity that are also found in mindfulness. In this paper I explore this idea further as it is my interest that this research has the potential to help us understand not only creativity and mindfulness in themselves, but also the powerful relationship that they have. I have gained personal insight into the relationship between my creativity and mindfulness that could help uncover some of the elusiveness and mystery of creativity for the purpose of better understanding its importance as a teachable outcome in our public schools, and also as to help us more effectively implement the teaching of it as a curriculum outcome. In my research proposal I stated that: “the implications of this research could benefit: 1. Creativity research, 2. Mindfulness research, 3. Educational research indicating and supporting creativity as an essential outcome of public education, 4. Educational research in guidance and counselling in helping to understand mindfulness and its uses within that realm. 5. Support for Creative arts education within the public schools, 6. Support for Creative education cross curriculum, and 7. The value society places on creativity. It is quite possible that there are
unforeseen benefits that emerge from this research investigation”. These are all general implications. In fact, while the results of this study still have the potential to benefit those outcomes listed above, the results of my research also have implications on a far more personal and immediate level. My new found understanding is already impacting my personal creative development, implementation of the curriculum, pedagogy, and students. This research (in combination with research produced by my colleagues on the topic of creativity) has also begun to impact how we, in our fine arts department at Leo Hayes High School, approach creativity. In department meetings and professional development sessions our fine arts department has begun the process of implementing creativity as a more concrete outcome. We have looked at how to infuse creativity into our pedagogy. We have discussed how we can teach for creativity, but also teach more creatively ourselves. We have proposed that it become part of our Schools current School Improvement Plan.

The initial motivation for this research investigation came from my own experiences as an artist, art teacher and graduate student learning about creativity and mindfulness. As an artist and art teacher I have experience and understanding of creativity. My prior “personal practical knowledge” (Clandinin and Connelly, 1988, p. 25) combined with new learnings in creativity and mindfulness in education sparked interest in what seemed to me to be a natural relationship between the two. Upon further investigation I could not find much research specific to this enquiry. There is literature on the individual topics of creativity and mindfulness, and also on the significance of both of these topics within education. Within this literature some of the research touches on a connection however this is not the central point of the investigation. For example, Ellen
Langer (2005) in her book *On Becoming an Artist Reinventing Yourself Through Mindful Creativity* discusses the benefits of mindfulness on creativity. Another example of a connection is the use of creativity through the arts as a method of achieving mindfulness with patients and students as can be seen in in the study “Investigating the Effectiveness of an Arts-Based and Mindfulness-Based Group Program for the Improvement of Resilience in Children in Need” by Diana Coholic, Mark Eys, and Sean Lougheed (2011).

In my experience, in much the same way that we acknowledge that physical education is not only about teaching children to play a sport, but also about maintaining physical health, teaching the creative arts is more than simply teaching our children to play an instrument or to draw. Untangling the relationship between creativity and mindfulness has helped to clarify why I feel this way, and how this happens within my own creativity. This is important because understanding how engaging in the creative process gives me the benefits of mindfulness, of mental health, and provides a starting point from which we can now begin to look towards research that may help others in the same fashion as we see a growing need for mental health amongst our students. For example, there has been a rise in mental illness in our schools and according to DeAngelis (2004):

One in five children and teens suffers from mental health problems, and the number is growing. The World Health Organization estimates that by 2020, neuropsychiatric disorders in children will swell by 50 percent compared with other health-related problems, making them one of the five leading causes of childhood illness, disability and death. While it is unclear exactly why the
numbers are rising so rapidly, many experts believe it is related to increased stress in children and families and better diagnosis of existing problems. (para. 1)

Creative arts education, has the possibility of addressing the problem of growing mental health issues within our schools. As Cathy Malchioti (2009) says:

To dance -or paint, drum, write, or play-- does not make it all better, but to be mindful in a creative moment does. Some refer to that process as a state of flow and others call it a form of meditation. No matter what this state of being is called, recent studies underscore the potent combination of "being here now" and the creative process to impact illness... In brief, there is a significant decrease in symptoms of distress and improvements in health-related quality of life…aspects translatable to life and health in general. (para. 2)

You can see from Malchioti’s description that she recognizes some intangible connection between the creative arts and mindfulness. This is not uncommon in the literature, however finding literature that examines this connection specifically is rare.

In this study I have clarified my own creative process and in doing so revealed relationships between specific forms of thinking within the creative process and specific forms of mindful meditation, essentially untangling the relationship between creativity and mindfulness and finding a tangible connection between the two.
Chapter 2: Literature review

Creativity

In examining a relationship between creativity and mindfulness it is necessary to have an understanding of each individually, and “although it is impossible to consider all definitions or aspects of creativity, it is important to acknowledge the complexity of multiple definitions or theories to begin to construct a useful understanding” (Milbrandt and Milbrandt, 2011, p. 8). Milbrandt and Milbrandt (2011) feel that many art teachers subscribe to the domain criteria for creativity which relies on acquisition of basic technical skills and concepts that must be attained and demonstrated prior to execution of more expressive or open ended assignments and that the creative genius of the artist lies in her or his ability to master materials and techniques important for satisfying social and cultural needs. (p. 9)

“Each major domain of creativity has its own distinctive methods or techniques that provide the basis for generating creative ideas” (Simonton, 2012, p. 219). Theorists like Csikszentmihalyi distinguish between domain changing creativity (big-C creativity) and everyday creativity (little-c creativity) (Piirto & Starko, 2006, p. 1). Ronald A. Beghetto and James C. Kaufman (2013) developed a "four C" model of creativity; mini-c (personally meaningful interpretations), little-c (everyday problem solving and creativity), Pro-C (creativity within a field of expertise or a profession) and Big-C (legendary creativity) (p. 12). This “model provides a framework for including creativity in the curriculum and helping students develop their creativity to higher levels” (p. 13).

Runco (2014) notes that “the processes involved in personal everyday creativity are the same as those involved in high level creative achievements. Both start with the
individual and his or her original and effective idea or insight. The construction of an original interpretation of experience is the same” (p. 132). In looking at ways of teaching creativity in the classroom it seems reasonable to focus on teaching and developing the process of creativity as it is the same wherever it is found within the hierarchical models of big-c, little-c creativity.

Creativity has been described as a process that creates something novel and useful (Klausen, 2010, p. 349), as making personally meaningful interpretations, and everyday problem solving (Beghetto and Kaufman, 2013, p. 12). Brookhart (2013) refers to creativity as being both “original and of high quality” (p. 29). These descriptions are satisfactory for a general working definition of creativity.

How do we teach students to produce ideas that are both novel and useful? There are many theories which attempt to explain the creative process. “The creative thinking process developed by Graham Wallas in 1962 might probably be the most well-known among all other models” (Wong and Siu, 2011, p. 440). Wallas’ theory consists of four stages: Preparation (information related to the problem is investigated), incubation (a period of time in which unconscious thinking takes place), illumination (effortless inspiration), and verification (evaluation and completion of the idea/solution) (Wong and Siu, 2011, p. 440).

Eric Booth (2011) has broken down the essential skills of creativity into the following categories: Brainstorming (the capacity to generate multiple solutions), Divergent thinking (the capacity to come up with original, unexpected or surprising ideas), Metaphoric thinking (the capacity to connect two usually disconnected categories of things in a way that provokes meaning), Flexible thinking (the capacity to go back and
forth between considering parts and wholes, playing with multiple points of view),
Multisensory engagement (using your whole body to ‘know’, reaching beyond thinking),
and Empathy (being able to revise our preconceptions and judgments of others) (p. 24-26).

Candace Hackett Shively (2011) focuses on fluency (the ability to generate lots of ideas), flexibility (the ability to look at topics from different angles), originality (the ability to generate unique or unusual ideas) and elaboration (the ability to carry an idea to fruition) as skills to developing creativity (p. 10-13).

Wong and Siu (2011) have looked at various creative thinking process theories and feel that “the creative process can be cyclical in which the stages of analysis, generation and evaluation can repeat if the solution generated is not adequate in solving the problem” (p. 441).

There are similarities throughout the various creative process theories. The process seems to begin with gathering abundant information and ideas, followed by choosing one that appears to fit into the novel and original category and then following through with the idea in a high quality way, looping back if that idea proves unsatisfactory. Teachers can lead students through the process by modeling, and students can practice the process of creativity using any of the given models in groups and individually. The process is something that can be developed through practice like any other skill.

Initial research on creativity assumed that creativity was a fixed trait. As Collard and Looney (2014) point out:
Creativity tests such as Torrance Tests of Creativity and Divergent Thinking (1966, 1974) and tests developed by Guilford (1950, 1967, 1973), for example, measured ‘divergent thinking’ and ‘ideational fluency’ — i.e. how many different and novel solutions a learner could generate to address a given problem — as elements of the learner’s potential. The focus was very firmly on big ‘C’ creativity, and little thought was given to teachers’ roles in nurturing everyday creativity beyond. (p. 349)

With the shift in how we understand creativity moving from a fixed trait to one that can be learned, researchers have revealed much about creativity, specifically about the processes and characteristics associated with it.

Creativity has been misunderstood and undervalued in society which transfers to our schools: “The arts are provided when it is possible to do so, but they are not generally considered a part of the core academic program” (Eisner, 1999, p.136). While “there are schools and school districts that take the arts seriously as a significant part of the child’s academic and intellectual development. In such schools and school districts, it is largely because school administrators, parents, and other members of the community have a conception of a decent education that includes work in the arts” (p.136). “Part of the problem lies in the public's assumption that the artistic process is a purely emotional, haphazard activity whose role is best viewed as enrichment, rather than necessity” (Greene, 2006, p. 46). The quality, consistency and value of creative arts education should not be decided on this way. With creative arts education being subject to circumstance as such, many people “grew up regarding art as an enjoyable experience that requires little intellectual thought, an attitude that perpetuates the belief that the study
of art is unimportant and not a subject worthy of study” (Ahmad, 1986, p.8). “One wonders how the rigors of art making appreciated by the public hundreds of years ago can be ignored by a contemporary society who perpetuate the misconception that art is a purely emotional endeavor better viewed as entertainment and best conveyed by realistic representations” (Green, 2006, p. 47). The creative arts have continually had to prove themselves, justify or validate their teaching, within the context of our public schools.

The creative arts are not always so transparent in what they teach us. Sometimes because the lessons that the creative arts teach us are less tangible than traditional subjects such as math, reading, science or history, the arts has been undervalued. Much of what the creative arts teach us is complex and subtle, higher order thinking skills, such as problem solving, and critical thinking. Bloom’s Revised Taxonomy puts creating as the highest in the cognitive process dimension of learning as a higher order thinking skill along with metacognition and abstract thinking in the knowledge dimension (Revised Bloom’s Taxonomy, n.d.). These skills are learned through learning the creative process, which also teaches us to use and combined many skills learned for other subjects in the process, i.e.: holistic learning. Because what is taught through the creative arts is not easy to test for and hard to articulate, traditionally it has been thought of as a lesser subject and marginalized. In creative arts education research there is much evidence supporting the importance of its role in learning and development, however in our tiered system it still seems to fall to the bottom of the course pile (Sir Ken Robinson, n.d.). Art educators and advocates have identified many reasons why creativity should be taught in schools. They have validated art for arts’ sake, and illuminated many other benefits of arts education. In
spite of what we know of the importance of arts education, for some reason it still needs to be constantly defended and justified to maintain a place in our schools.

In the last 10 years of the 20th century and the beginning of the 21st century research in creativity itself and creativity in education has been growing. The results of this research along with our changing economic climate has put the teaching of creativity skills among important 21st century learning skills. Another contributor to the rise of creativity in the 21st century learning discourse is the essential role creativity is seen to play in keeping us competitive, and able to survive in our changing western economy. As our technology and information jobs are being outsourced, our western economy needs a creative work force. Creative work is something that cannot be programmed into a computer and is more difficult to outsource. Creativity is also required for the service industry which is a large part of the economy in developed countries. Daniel Pink (2006) stresses creativity, empathy and intuition (more of the right brained thinking skills) as important 21st century skills. In addition to its economic importance, there is the idea of the creative individual as a fulfilled individual.

The most prominent advocates of 21st-century education all stress the importance of learning essential content by way of authentic intellectual skills. These advocates' documents invariably contain the terms critical thinking and problem solving (Schmoker, 2008/2009, p. 1) which are skills included and learned in the creative process. Creativity is something for all of us, not just the “artist” and this creativity can be seen to improve everyday life, from cooking or cleaning to relationships, and anything requiring creative problem solving.
Perhaps finding a connection between creativity and mindfulness will inspire further research on the subject. It is my belief that with further research and understanding we can show how creativity has an important and positive impact on all aspects of life, in every subject area. This continuing research will be the justification that educational stakeholders need to see the importance of creative arts education within our schools and the importance of creativity within all disciplines.

**Mindfulness**

My experience teaching, learning and participating in creative activities has revealed benefits to learning creativity that parallel those of mindfulness. Exploring the relationship between creativity and mindfulness has the potential to positively impact and create additional support for creative education in schools. Research has shown that “mindfulness helps children, students and teachers to improve their concentration, attention, conflict resolution, and empathy” (Mindfulness in Schools, Colleges and Universities, n.d.). It teaches students to “know how to pay attention, how to focus and concentrate, how to listen and how to learn, how to be wise in relationship to themselves- including their thoughts and emotions- and with others.” (Mindfulness for Children, n.d.). “Mindfulness has been defined as “the awareness that emerges through paying attention, on purpose, in the present moment and non-judgmentally to the unfolding of the experience moment by moment” (Kabat-Zinn, 2003, p. 145). The idea of mindfulness has been around for a long time as a Buddhist practice. It is a holistic philosophy with ancient historical origins attributed to northern India circa 500BCE. The development of the practice of mindfulness is usually attributed to Gautama Siddharths, the Buddha, about 2600 years ago. “Mindfulness meditation was developed as a holistic teaching whose
purpose was to relieve human suffering, to increase compassion and loving kindness among its practitioners, and to help individuals attaining the peace of enlightenment” (Armstrong as cited in Coholic, 2010). Coholic (2010) explains that:

Mindfulness was meant to help people see clearly and understand themselves and others better so that we could live a more fulfilling and joyful life...a practice that can help people ‘free themselves from mental constructs…see the world as we really are…allowing us to experience the delight of touching life deeply and authentically…giving us a way through suffering to joy…and encouraging us to do all of this every moment in our daily lives. (p. 87-88)

Jon Kabat-Zinn (1990,1994), one of the pioneers in developing mindfulness based programs in North America, argues that “mindfulness has everything to do with examining who we are, with questioning our view of the world and our place in it, and with cultivating appreciation for the fullness of each of life’s moments” (as cited in Coholic, 2010, p. 88).

Practicing mindfulness with students in our schools is relatively new. It has shown promise as a tool for aiding students in their mental wellness. Mindfulness research has shown that bringing mindfulness into the schools, through guidance, curriculum, or pedagogy can been beneficial to the mental health of students at risk, and in more general terms, as a tool to enable more authentic engagement in learning, thus improving the quality of learning. Coholic (2010) writes:

Mindfulness-based practices are important for children because they can help children and young people to learn to focus on their feelings and thought without judging these experiences, thereby promoting self-awareness and self-esteem. In
turn, a foundation of self-awareness and self-esteem can assist children to build resiliency including improved coping and social skills, as well as problem solving skills, and a better ability to understand the perspectives and values of others. (p. 92)

Another example of the benefits of mindfulness comes from Ciesla et.al (2012) who found that “Mindful adolescents were generally less likely to experience increased levels of state rumination and dysphoric mood following the occurrence of stressful events” (p. 767). Mindfulness is said to improve well-being, physical health and mental health (Benefits of Mindfulness, n.d.). “Mindfulness-based practices can teach children with significant problems to relax, to cope better with day-to-day problems, to become more self-aware and less judgmental of themselves, and to form more positive and healthy relationships with family and peers” (Coholic and LeBreton 2009, p. 92).

Is learning about and engaging in creative work a mindful based practice? It is generally recognized that “there is more than one way to practice mindfulness” (Benefits of Mindfulness, n.d.). Research has shown that one method of obtaining a state of mindfulness is through meditation. Fisher (2006) explains it in this way:

A Zen story tells of a professor who came to the Zen master Nan-in to learn about Zen. Nan-nin poured the professor a cup of tea, and when the cup was full kept pouring. The professor protested, ‘Stop! The cup is overfull already.’ Nan-nin replied: ‘Your mind is over-full like this cup. To learn about Zen you must first empty your cup’ (Reps, 1994). Children’s minds are often too full of buzzing ideas and emotions to do their best thinking or learning. In recent years there has been growing interest in what meditation has to offer teachers and learners. Those
who advocate the practice of meditation in schools argue that it is a technique that can help children overcome blocks to learning and is an ideal preparation for creative activity. They support this view with research evidence that claims to show that the practice of meditation reduces stress, promotes relaxation and well-being while developing the skills of concentration and self-control, while enhancing emotional intelligence and self-esteem (Erricker & Erricker, 2001). (p. 1)

There are other ways of teaching mindfulness as Coholic (2010) refers to here:

An excellent way to teach mindfulness to children is through the use of their five physical senses. Certainly, developing listening skills and the ability to pay attention is usually one of the first priorities and goals with children with high needs. One exercise helps the children to develop mindful listening skills by encouraging them to write down everything they are conscious of hearing over a period of approximately three minutes…After sharing the lists/sounds with the group, poems can be created from the sound words. For instance, children can be asked to highlight the words that stand out for them and then, using these words, construct a poem. Often one can simply write the highlighted words into sentences without any editing. (p. 99-100)

Goodman (2005) has found “that children do not communicate the way that adults do, as many of their thought and feelings are expressed nonverbally through creative activity” (as cited in Coholic, 2010, p. 27) and that “Holistic arts-based methods offer an opportunity to engage children in need in a helping process that is supportive, strengths based, enjoyable and non-threatening” (Coholic, 2010, p.26) and “Holistic arts-based
activities, games and meditations teach them how to: listen and pay attention be mindful of their thoughts and feelings learn about their own and others’ values, play with different perspectives and build strengths” (Coholic, 2010, p. 23). “Holistic arts-based methods facilitate psychological well-being because they help the children to express themselves, to discover and better understand their feelings, thoughts and behaviors, as well as teaching them social and coping skills. All of this occurs while the children are having fun and being creative” (Coholic, 2010, p. 25).

These learnings facilitated through holistic arts-based methods to mindfulness, are they taught through the creative engagement with the arts? Do the participants need to be mindful before they begin? Or is the mindfulness taught through the process of engaging in the creative arts? What comes first the chicken or the egg? Or is it more complicated than that? These are questions that I have found no answers to in the literature; questions I am interested in enquiring about through my research, and hoping to find answers for.

“This is important (developing imagination) because imagination can among other things help children achieve goals and develop empathy for others….understand that multiple perspectives can exist, which can help them to understand and change their own viewpoints, not to mention that being able to understand and consider a variety of perspectives is also important for the development of good critical-thinking skills” (Coholic, 2010, p. 48). “Both arts based methods and holistic interventions are experiencing growth and increased utilization across helping and health professions” (Coholic, 2010, p. 50). There is no doubt in the literature surrounding mindfulness that there are links to creativity and participation in the arts and that this may be more pronounced in children. There still remains the question of what those specific links are.
The language used by researchers and experts in describing the characteristics of mindfulness reflect language used in describing characteristics of creativity. Words and ideas such as concentration, observation, non-judgment, experience, perseverance, acceptance, empathy, focus, holistic learning, intention, reflection, attention, attitude, empathy, understanding multiple perspectives, critical thinking skills are found in both sets of literature when describing the traits associated to both mindfulness and creativity. For example, “The qualities one brings to attention have been referred to as attitudinal foundations of mindfulness” (Kabat-Zinn, 1990) and Tina Seelig identifies attitude as one of her 6 characteristics of truly creative people (Tina Seelig: The 6 Characteristics of Truly Creative People, n.d.). Another example is that of Eric Booth’s essential skills of creativity (2011), previously referred to which include, amongst other things: flexible thinking, empathy and multisensory engagement as compared with mindfulness teaches concentration, attention, conflict resolution, and empathy” (Mindfulness in Schools, Colleges and Universities, n.d.). These qualities that are found in both the literature for obtaining mindfulness and creativity, are they qualities that are also needed for higher order thinking? Can these qualities be taught through either learning creativity or learning mindfulness? Does one affect the other?

The Holistic Arts-Based Group Program (HAP) for the development of resilience in children in need teaches mindfulness using arts-based methods, and aims to teach children how to understand their feelings and develop their strengths. Coholic, D., Eys, M., & Lougheed, S. (2011) report on the results from that study:

[S]ome of the children developed self-awareness, self-esteem, and felt “happier” and more confident. They also learned emotional regulation and the healthy
expression of feelings that, in turn, enabled improved coping at home and school
(as perceived and reported by the children and their guardians; Coholic 2011;
Coholic et al. 2009a, b).

As previously stated, there are several methods to achieve a state of mindfulness.
Langer (2014) expresses qualities of a mindful state of being as: “(1) creation of
new categories; (2) openness to new information; and (3) awareness of more than one
perspective (p. 64).” In my experiences as an artist and art educator these qualities are
also qualities of someone who is creative or who is actively participating in the creative
process. Other’s research and experiences reflect my own. I draw parallels between
Langer’s qualities of a mindful state of being to Eric Booth’s (2011) essentials skills of
creativity; Brainstorming (the capacity to generate multiple solutions), Divergent thinking
(the capacity to come up with original, unexpected or surprising ideas), Metaphoric
thinking (the capacity to connect two usually disconnected categories of things in a way
that provokes meaning), Flexible thinking (the capacity to go back and forth between
considering parts and wholes, playing with multiple points of view), Multisensory
engagement (using your whole body to ‘know’, reaching beyond thinking), and Empathy
(being able to revise our preconceptions and judgments of others) (p. 24-26). Booth’s
description of brainstorming, divergent thinking and metaphoric thinking could include
Langer’s creation of new categories, and openness to new information. Booth’s Flexible
thinking seems to be the same as Langer’s awareness of more than one perspective. As
well we have already read Candace Hackett Shively (2011) who when looking at
creativity focuses on fluency (the ability to generate lots of ideas), flexibility (the ability
to look at topics from different angles), originality (the ability to generate unique or
unusual ideas) and elaboration (the ability to carry an idea to fruition) as skills to
developing creativity (p. 10-13). There is an overlap in the qualities of a mindful state of
being and the qualities employed in creativity.

I can see how approaching any learning, not only creative learning, can be
enhanced by approaching it mindfully. Mindfulness “reduces stress, promotes relaxation
and well-being while developing the skills of concentration and self-control, while
When I engage in the creative process through art making, I find it a stress reducer, I
become more relaxed and I feel whole. The concentration that I need to engage in the
creative process requires self-control, discipline, and the feeling of accomplishment for
participating in such a satisfying experience gives me self-satisfaction and contentedness.
I wonder if it is the creative process that enables these feelings, or is it mindfulness that
causes these feelings in me? Do other artists/people feel this way when they are engaged
in the creative process?

The only research that I have found that directly relates to my research interest is
a study done by Lippelt, Hommel and Colzato (2014) called “Focused attention, open
monitoring and loving kindness meditation: effects on attention, conflict monitoring, and
creativity – A review”. This article states that:

The scientific evidence regarding the connection between meditation and
creativity is inconsistent. While some studies support a strong positive impact of
meditation practice on creativity (Orme-Johnson and Granieri, 1977; Orme-Johnson et al., 1977), others found only a weak association or no effect at all
(Cowger, 1974; Domino, 1977). Recently, Zabelina et al. (2011) found that a
short-term effect of mindfulness manipulation (basically OMM) facilitated creative elaboration at high levels of neuroticism. As pointed out by Colzato et al. (2012), these inconsistencies might reflect a failure to distinguish between different and dissociable processes underlying creativity, such as convergent and divergent thinking (Guilford, 1950). Accordingly, Colzato et al. (2012) compared the impact of FAM and OMM on convergent thinking (a process of identifying one “correct” answer to a well-defined problem) and divergent thinking (a process aiming at generating many new ideas) in meditation practitioners. Indeed, the two types of meditation affected the two types of thinking in opposite ways: while convergent thinking tended to improve after FAM, divergent thinking was significantly enhanced after OMM. Colzato et al. (2012) suggest that FAM and OMM induce two different, to some degree opposite cognitive-control states that support state-compatible thinking styles, such as convergent and divergent thinking, respectively. In contrast to convergent thinking, divergent thinking benefits from a control state that promotes quick “jumps” from one thought to another by reducing the top-down control of cognitive processing—as achieved by OMM. (para. 16)

The results of my research are most similar to the results of this research.
Chapter 3: Methodology

When situating myself within the research I find myself smack dab in the middle of it. Lindsay Mack’s (2010) discussion of the philosophical underpinnings of educational research have shown me that my paradigm aligns with an interpretivist paradigm. I have always felt that in the field of education we deal with people, and people are subjective. We all have our own thoughts, ideas and experiences that we bring with us to our learning and teaching. According to Mack (2010) the ontological assumptions of interpretivist are that:

- Reality is indirectly constructed based on individual interpretation and is subjective. People interpret and make their own meaning of events. Events are distinctive and cannot be generalized. There are multiple perspectives on one incident. Causation in social sciences is determined by interpreted meaning and symbols (p. 8).

The Epistemological assumptions of the interpretivist paradigm according to Mack (2010) are that:

- Knowledge is gained inductively to create a theory. Knowledge arises from particular situations and is not reducible to simplistic interpretation. Knowledge is gained through personal experience (p. 8).

I agree with the interpretivist notion of seeking to “understand rather than explain” (Mack, 2010, p. 8). I wish to understand the relationship between creativity and mindfulness in my own creative practice. The “Interpretivist paradigm is also sometimes referred to as constructivism because it emphasizes the ability of the individual to construct meaning” (Mack, 2010, p.7).
As with any research approach, there are limitations. One such limitation of interpretive research is that it does not follow the traditional scientific procedures of verification. This means that results cannot be generalized. Traditional scientific or positivist research has always believed the purpose of research was to prove or disprove a hypothesis and these positivists question the overall benefit of interpretivist research. It is my hope that my research will resonate with others – other artists, teachers, and people in general; that this research will help us to better understand the complex, and often personal, processes of creativity and mindfulness and how they intertwine. Another criticism of interpretivism is that it is subjective rather than objective. I believe all research is subjective. As Mack notes (2010):

> By selecting your paradigm you are being subjectively oriented towards one way of doing research. You cannot divorce yourself from your perspective as the researcher. In qualitative research, you are being more subjective in the sense that you are not using a hypothesis and you are involving yourself in the research. However, interpretivists still take an objective stance when analyzing the data they collect. By bracketing their assumptions, they look at the data thoroughly so that the data informs the researcher about what is going on in the environment, instead of the researcher’s own preconceptions.” (p. 8)

My original proposal was based on insights which stemmed from my own personal practical knowledge. This type of personal practical knowledge is validated by Clandinin and Connelly (1988) who coined and define the term personal practical knowledge as:
A term designed to capture the idea of experience in a way that allows us to talk about teachers as knowledgeable and knowing persons. Personal practical knowledge is in the teacher’s past experience, in the teacher’s present mind and body, and in the future plans and action. It is, for any one teacher, a particular way of reconstructing the past and the intentions of the future to deal with the exigencies of a present situation. (p.25)

Practicing and teaching art for 14 years in a high school setting to students aged 14-17, teaching personal development to 15 year old grade 10 students for 10 years, and regular professional development along with my studies as a teacher researcher through course work in the field of curriculum studies have all contributed to my personal practical knowledge in the relationship between mindfulness and creativity. I see similarities in the traits or characteristics required for both creativity and mindfulness, and also similarities in the processes of achieving both creativity and mindfulness. My personal and academic interests and experiences lie in art, art education, holistic learning and well-being.

I approached this study through an arts-based research approach. According to Greenwood (2012), arts-based research operates on the premise that:

We come to know the world through our senses as well as through the verbally coded information we receive. We communicate through our bodies as well as with words. And when we know things, we often do that in ways other than just the intellectual” (p. 2)

This research approach resonated with me because for me, the questions I had regarding the relationship between creativity and mindfulness were based on a knowing through
experience, through doing and intuition, rather than strictly intellectual. Barone and Eisner (2006) describe arts-based research:

Growing numbers of educational scholars and researchers have begun to explore the possibilities on inquiry approaches that are indeed, in varying degrees and ways, artistic in character. These approaches are forms of what has come to be called arts-based educational research (ABER)... What does it mean to say that a research approach is arts-based? Two criteria apply. The first is artistic activity within the research, and the second is aesthetic qualities/design elements within the presentation/communication of the research. The research may have a poetic or literary quality setting out to tell a story, perhaps using arts based forms to present its messages and aiming to connect with readers on an emotional or spiritual level. (p. 95)

Hickman (2007) explains arts-based research like this:

Arts education can be seen to be concerned with both education in the arts and education through the arts; research in arts education can be seen to be both research in the arts and, more controversially, through the arts. This takes us out of the domain of educational research and into a broader field. (p. 316)

According to Cahnmann and Seigmen (2008), there are two types of arts-based research methodology:

1. ‘Hybrid arts-based’ research produces blurred genres between the arts and sciences. Auto ethnography is one such method.(p.8)
“‘Auto ethnography’, a merger between autobiography and ethnography, highlighting the extent to which the researcher foregrounds his or her own reflections and experiences in a given study” (p. 8-9)

2. Arts-based research ‘arts for scholarships sake’ “These scholARTists use their experiences during educational field work to create pieces of art that capture the essence of their findings in emotionally penetrating ways. What distinguishes this work from art for art’s sake is often the context in which this type if scholARTisrty is found and that the scholARTisrty’s content is typically grounded in the experience of data collection and analysis” (p.10)

The method of arts-based research fit with my study in more than one way. First, it fits because my research is research into the arts, specifically the relationship between creativity and mindfulness. Second, I have inquired into my initial feeling that there is a relationship between creativity and mindfulness. This feeling originates from my own personal experiences and knowledge and so this research is an arts-based auto-ethnography. These arts-based educational research methods not only suit my research but also compliment it. It seems fitting that an enquiry into the relationship between creativity and mindfulness through my own creative practice be arts-based. I conducted my inquiry using an arts-based approach and also produced visual art to express my results. These visual results have been translated and explained using the written word later in this document as a supplement to the visual results. I used both types of art-based research methodology: the ‘Hybrid arts-based’ auto ethnography research method and the ScholARTistry referred to by Cahnmann and Seigsmen (2008). Crawford (1996) describes auto ethnography in this way:
Auto ethnography epitomizes the reflexive turn of fieldwork for human study by (re)positioning the researcher as an object of inquiry who depicts a site of interest in terms of personal awareness and experience … [it] orchestrates fragments of awareness—apprehended/projected and recalled/reconstructed—into narratives and alternative text forms which (re)present events and other social actors as they are evoked from a changeable and contestable self. (p. 167)

Butz (2009) recognizes that:

Auto ethnographic self-narratives may take a variety of forms and emerge from a range of speaking positions, including (i) academics’ systematic efforts to analyze their own biographies as resources for illuminating larger social or cultural phenomena; (ii) researchers’ reflective ruminations on their fieldwork encounters; (iii) subaltern subjects’ responses to the ways their group has been represented ethnographically; (iv) so-called ‘Indigenous ethnographies’; and (v) other types of insider or complete member research. In each of these styles of auto ethnography, authors scrutinize, publicize, and reflexively rework their own self-understandings as a way to shape understandings of and in the wider world. (p. 1660)

My research results from my reflection on past experiences as well as new experiences as I experienced my research enquiry and synthesized my findings through my own creative work, but also through reflections and journaling during this creative process. I used inductive reasoning to form a generalized conclusion for how I personally experience mindfulness and creativity. For example, I nearly always feel ‘better’, more at peace and more grounded after participating in creative activities and therefore I have induced that my creative process produces feelings similar to those that result from mindfulness
practices. The body of artwork I produced reflects my original research surrounding the
topics of creativity and mindfulness as well as any research that I found after personal
reflection on my experiences and original research sent me back to reviewing more
literature. In this way some of my visual research reflects both original research results
combined with or supported by further literature review on the topic. I used deductive
reasoning, “A form of reasoning in which conclusions are formulated about particulars
from general or universal premises” (Writing@CSU, n.d.), when reviewing the literature
surrounding my topic. I began with a plan to produce a series of works reflecting my
learnings and knowledge surrounding creativity, doing the same with mindfulness, ending
with a series of work that explored the relationship I have learned and experienced
between the two during the process. I wanted to leave this as loose guideline so as to
remain authentic to the creative process and the research. I felt that as the creation of the
art work was intended to be part of the research it needed to be free from expectations
and intentions as much as possible. (Bracketing of assumptions). Reflections on my
creative work were to guide my research into what the relationship between creativity
and mindfulness was for me. The art works that resulted from the process and product of
my research were not what I originally had in mind. The subject matter and number of
paintings changed. There was only one exception to this. I had planned for and
continually reminded myself that keeping an open mind and allowing the research to
guide me would allow me to be true to my work and result in authentic research.

As an auto-ethnographic study, I do not intend that my findings will be
transferable or generalizable to others, only to provide insight into my own experience as
a building block for further study. Perhaps others will be able to relate to my experiences,
or my research may produce more questions. It was my hope that I would find evidence that could clarify, further support and advocate for creative arts education. Perhaps this research can open the door for further study surrounding creative art education and the possible benefits it might have on our students’ mental health in a time when mental health issues are growing exponentially. Initially however, the nature of this study is very subjective, a simple starting point in an area where there has been minimal research - The purpose of which is to glean more understanding, and open up this line of research to more questioning.

What Hickman (2007) said about research in arts education, that it “can be seen to be both research in the arts and, more controversially, through the arts” (p. 316), really resonated with me. As an art educator it seemed fitting that this methodology was the one that I use to conduct my research. I felt that by conducting arts-based research that somehow I would be supporting the arts in two ways. Not only does my research topic affect art and arts education, but using arts-based research I am adding to that growing number of educational scholars and researchers that Barone and Eisner have said have begun to explore the possibilities on inquiry approaches that are indeed, in varying degrees and ways, artistic in character. (Barone and Eisner, 2006, p. 95). If both my research and my methodology could be used as a vehicle to support and promote the value of arts in education I felt compelled to choose it as my methodology.

As an artist, the arts-based research methodology appealed to me greatly. I often think in pictures and learn by doing. Macintyre (2012) discussed how “we come to know the world through our senses as well as through the verbally coded information we receive” and how “We communicate through our bodies as well as with words. And when
we know things, we often do that in ways other than just the intellectual” (p. 2). This is
how I felt I ‘knew’ there was a connection between my own creativity and art making and
mindfulness. It was not an intellectual knowing but a knowing in my body and soul. A
knowing from my own experience of doing. I felt the need to tease out this knowing to
find out more about it, clarify it, untangle it and make it more clear in my own mind. I
wanted to find out if what I knew in my body and soul, in my experience had any
connection to any preexisting research out there. I wanted to see if I could learn anything
from my own experience that could add to our general collective understanding of
creativity and the creative process, and also how this process is entwined with
mindfulness. I wanted to take my personal knowledge and articulate what I felt I knew to
be important understanding of the links between creativity and mindfulness from this
personal practical knowledge inside of me to word, paper and page – to articulate to
others in hopes of improving how we as a society value creative education and
understand the power of art making.
I felt my research intentions were best aligned with the arts-based method of inquiry as
Knowles and Cole (2008) point out:

“It should be recognized that answers to questions and solutions to problems
might not be arts informed research’s long suit. This method of inquiry may trump
conventional forms of research when it comes to generating questions or raising
awareness of complex subtleties that matter. The deep strength of using the arts in
research are closer in function to deep conversation and insightful dialogue than
they are to error free conclusions.” (p. 7)

Knowles and Cole (2008) go on to say:
Seeing, being surrounded by the visual, doesn’t always or necessarily mean that we notice what we see. It is the paying attention, the looking and the taking note of what we see that makes images especially important to art, scholarship and research. (p. 42)

I decided that I wanted to write and reflect on my own experiences with the research subjects (creativity and mindfulness), as well as create art with the express purpose of studying my creative process and the mindfulness within and finally to produce art to convey the meaning and results I found. Cahnmann and Seigsmen (2008) describe art-based research as ‘arts for scholarships sake’ and go on to say “These scholARTists use their experiences during educational field work to create pieces of art that capture the essence of their findings in emotionally penetrating ways” (Cahnmann and Seigsmen, 2008, p. 10). I didn’t set out to create art work that was emotionally penetrating, but what I did intend was to ground my content “in the experience of data collection and analysis” (Cahnmann and Seigsmen, 2008, p. 10) as Cahnmann and Seigsmen describe.

The obvious place for me to begin was my own experience. As I reflected I realized that it has been a lifetime of experiences that has led me to this moment. I am who I am, and think as I think, and behave and respond as I do, because of who I am. Who I am is a sum of my lifetime experiences. Because of this I felt I had to go back to the very beginning and look at my whole life in order to understand why I would even be interested in untangling creativity and mindfulness. My story describes an overview of my life, and who I was, leading to who I am, and finally this inquiry. My memories describe specific moments where I remember mindfulness entwined with my creative
process. This auto-ethnography/personal narrative (of sorts) was the starting point for my active research of painting and studying my creative process.

I chose to begin my study by engaging in an art project that would require my creative process so that I could actively reflect on what I was doing while I was doing it. I decided on self-portraiture to reflect the personal interpretivist nature of the research and the understanding that any results that might come from the research are is not intended to be universal. I chose acrylic as my medium because acrylic paint is a medium that I use when I am looking for creative inspiration, still in the exploration stage of my creativity, not having made a final decision about what the product should be. I work with the medium, let it speak to me while I am using it to help guide my results rather than me using it for a predetermined result. I chose to do this as I wanted to be sure and reinforce that I was bracketing my assumptions/preconceptions.

I began to work on my self-portraits daily, recording in journals and sketchbooks, recording oral notes, and memos on my phone, any thoughts or insights on my creative process. When something struck me as puzzling, or possibly important, I would begin to research it within the preexisting literature, thus adding to my body of reading knowledge in hopes of gaining insight and understanding into what I was learning about my own process, and relating it to the research already out there. When I gained insight or information that I felt was important, I made sure to include it in my results.

In my plan, and in arts-based research, part of the methodology is to present the research findings in an aesthetic and artistic way. I wanted to create visual results, images, not just written results, regarding my findings. When I was ready to create my first visual regarding my results on my own creative process, I instinctively wanted to
change mediums. I believe this is because of my understanding, skill and level of comfort with the medium. I chose watercolour and ink. Upon reflection I chose to make the switch in medium because I am more versed in it, can communicate better with it, and I knew what I wanted to say so I chose a medium I am more articulate with. I found it interesting and noteworthy that I instinctually was using different mediums for different stages of my creative process and goals within my research methodology and wonder what this means and how if at all it affected the research.

I set out to study my own creative process and how it was entangled with my own mindfulness during a 6 week period over July and August of the summer of 2015. The bulk of the research was complete by the end of this time period however compiling and presenting the results still needed to be finished.
Chapter 4: The Research Results

As previously stated, the research was conducted on my own creative process. My process begins with a problem. The problem for this study was how to visually represent my own creativity entangled with mindfulness. The following two figures (figure 3 and figure 4) are photos of the results of the work used as a conduit for this research process. As I painted these I engaged in the creative process and while I engaged in the creative process I began my self-reflective journaling and dialogue, recording the process as it unfolded.

The colourful moving lines and the light and dark represent the varied and continually moving ideas and thoughts that weave throughout the creative process. The images are of my face, representative of the unique and individual nature of one’s own creativity. The style is not highly realistic, but expressive, to reflect the nature of creativity to be able to achieve a goal or solve a problem in a non-traditional or unexpected way. The use of white represents the illumination of ideas and the tints darkening into deeper hues are those ideas solidifying. The fluid nature of the brush strokes represent the fluid nature of my creative process and ideas come and go, change and grow. The fact that the ribbons of colour, line, and value do not settle into one solid realistic image reflect the intuitive yet undefinable or elusive knowledge of the relationship between my creativity and mindfulness.
Figure 3: Untangling creativity and mindfulness research painting. *Beethoven’s Long Walk*, 2015. Acrylic and ink on canvas, 16” x 20” (40.64 cm x 50.8 cm).
Figure 4: Untangling creativity and mindfulness research. Mindful Focused Attention, 2015. Acrylic and ink on canvas, 16” x 20” (40.64cm x 50.8 cm).
The results of this research can be broken down into three categories: creativity, forms of thinking, and mindfulness meditation. To untangle mindfulness from my creative process I had to put the process under a microscope, so to speak, and really pick apart and identify what was going on in my process. In doing this I recognized two distinct forms of thinking within the creative process: divergent thinking and convergent thinking. I found that instinctually I employed two different forms of mindfulness meditation, open monitoring meditation and focused attention meditation, to aid in each of these two forms of thinking.

**Creativity**

Research into my creative process has been an ongoing event. I had actually reflected on my creativity both informally and formally while studying others’ research on creativity, the creative process and creative development throughout my coursework in creativity. As previously discussed, my prior research into creativity and reflection on my own process is what sparked my realization that mindfulness was somehow entangled in my process, inspiring this study. In this study, I really wanted to delve into, dissect and clarify, my own creative process as I continued to have the nagging feeling that mindfulness fell somewhere in my process. I had to uncover the connection. I began my research into my own creative process and mindfulness with courses offered at the University of New Brunswick called Creative Inquiry and Practice, Creativity in Education, and Creative Development in Education. During this time I looked at a number of definitions of creativity, learned how the brain works during creativity, and studied the works and theories of researchers in the field on the topic of creativity,
creative process and creative development. As I learned I reflected on my own practices and how this new information enlightened them. For example, I approached my initial assessment of my creative process by using Graham Wallas’ well-known model of the creative process which looks like this: Stage 1. Preparation, stage 2. Incubation, stage 3. Illumination, stage 4. Verification, as a point of comparison.

I continued to learn more about my creative process during a study I did on transformation in creativity. In this study I piloted the arts-based research I was to later use in my current research and included visual art in my both my research of transformation in creativity and the explanation of my findings. The research question in this study was exploring the ways in which the creative process transforms. The research paper was mostly produced by traditional reading for research methods. After which I wrote a paper containing the findings. Tentatively, I explored expressing my findings through my own art work in an attempt to express transformation in creativity through the visual, and to experience communicating academically through arts-based research. I also wanted to experience the art making to experience what I might learn, my own transformation, in the process of producing the visual results.

I have always thought and worked in images. Often, when I learn or experience something, I see a picture in my head, or my brain begins to build an image to visually narrate or explain what is happening so that I can make sense of it. If I cannot make sense of something right away I will often try to organize or clarify the information or concept through a visual representation of it. For example, the creative brain diagram (figure 5) and research infographic (figure 6) I created to help myself understand the information on creativity that I learned about in the BBC Horizon
Figure 5. The Creative Brain Diagram
Figure 6. The Creativity Research Infographic
documentary: *The Creative Brain: How Insight Works* (Dart, 2013). This is how I learn and wrap my head around stuff. As previously stated, arts-based research can be used as part of the research process and part of the expression of aesthetic results, in hopes to evoke more understanding, meaning and emotion from the reader. Cahnmann-Taylor and Siegesmund (2008) speak of arts-based researchers who:

> Do more than help us see an external reality that heretofore has gone unnoticed by *reading* images they actively form a new reality by *creating* images. The visual is not just a tool for recording, analyzing, or interpreting data, it has become a tool for the production of data. The visual has reached a new dimension. It has become generative. Thus, visual research can be seen as falling across a spectrum anchored at one end by the objective rendering of images and at the other by the generative creation of images with the formative falling in the middle. Arts-based research is located between the formative and the generative points of this continuum.

Arts based visual research reminds us that data is not found; it is constructed. It emphasized the authority of both researcher and reader to create personal meaning from a work of research - rather than relay or receive an external meaning. As images exponentially increase in our lives – from the visual display of information on cell phones, to the visual presentation of data through the internet, and the ubiquitous presence of digital cameras, scanners - as well as the continuing influence of film and television – the power of the visual has implications for all qualitative researchers. (p. 100).

Upon first /initial investigation my creative process initially looked something like this:
1. Problem/question to be creatively solved or need to creatively express/communicate insight.

2. Research (Preparation). This might mean reading, interviewing, looking at images, observing or any number of ways to gather information.

3. Brainstorming for ideas and possible solutions, this could involve writing lists, diagramming, sketching or other methods. Engage in divergent thinking.

4. Rest/time and distance (incubation).

5. Choose a solution (illumination) that I thought worked best based on things like effectiveness, originality and preference. Convergent thinking.

6. Product (verification) Complete the solution itself, understanding that sometimes I may have a false start, needing to circle back to the process if I experience difficulties, additional realizations or roadblocks.

While this first look at my creative process felt thorough and complete, I was still missing how mindfulness was entwined and because of this I needed to take a closer look.

Upon closer inspection involving my reflexive research during my creative process in this enquiry, I found that I take a lot more rest and distance and circle back a lot more often than I initially thought, changing, altering or adding to initial ideas.

Coming to a final idea and decision is very difficult task. I am always thinking, adding, and changing. Eventually I have to begin the work, give in to my creative urges, and let them take me where they will. Often I change the final product in mid stride as new ideas come to me or developments arise. In previous research I have heard this labelled false starts. I think for me, I start a project knowing it may not be my solution, but rather beginning it anyhow in the hopes that the product speaks to me as I am working with it
and thus becomes a step or part of the solution. I begin to progress through each of the ‘stages of my creative process’ in a linear manner. But this order of progress is apt to change, whether it is looping back on purpose after a so called false start, or looking on purpose for more information (in the research stage), my progress through the stages changes as my needs do, or the stages themselves switch spots as I need them. At times I am participating in all the stages at once just as I am participating in each one of them separately or independently.

A more detailed, accurate, and insightful account of my creative process arose from this research inquiry. My creative process must begin with a problem or question that needs to be solved. The question I chose to answer in order to drive my creative process so I could study it was this: how do I express my feelings of entanglement in a visual way? While I answered this problem I began to study my own creative process. I had my question so now I needed to research – the next step in my creative process. In my process (and most creative processes) research is the step that follows the problem. The research occurs in many forms. For me it could mean literal research into books or articles, but it also means interviewing/talking to people getting their knowledge, and points of view and experiences with the question/subject matter, looking at images, observing or any number of ways to gather information. I also brainstorm in the research section to collect all I know or think about the topic. In my reflection on my creative process I discovered that I did far more research than I first thought, and that research was infused at, and in between every stage of my process, not just the research stage. For example: The first step in my creative process after the initial question is research and verification. I also loop back to this step after I have an ‘Aha!’ moment, spark, or think I
have decided on a possible solution. When I get an idea, I research the idea to see if it has been done before, and if so how was it approached, was it successful, how and why was it successful what can I take from my new research/information to help me move forward with my solution, or does this research shed light on possible problems perhaps causing me to go back to the drawing board. Sometimes this new information leads me down a new path causing me to start again. Sometimes it leads me astray, and sideways so to speak, expanding or changing my solution but not necessarily beginning again. Sometimes it simply verifies what I am doing and reinforces my current solution. If, during the brainstorming stage I am faced with unknowns, questions or queries, I loop back to research. If, during the distance stage, I am faced with questions wonderings or possible ‘aha!’ sparks that cause unknowns, I loop back to research. During my engagement in a creative endeavor I am always thinking and questioning as part of the process, and with all these new questions I feel compelled to research the answers. Something as simple as going for a walk seeing garbage on the path would set me to thinking and wondering things such as if it could be used in my solution or the idea or concept could be used and I find myself researching and adding to my research section of my process. Again, sometimes I find information that does not help, change or add to my idea/product/results, but other times I find information that might add to, enhance, change the direction of, or change all together, the idea/solution I have been working on. The process is both systematic and organic at the same time. It almost has a life of its own as it is as ever changing and growing as I allow it to be by being open to these new questions and possibilities that the answers to these questions provoke.
The stages of creativity work at once separately and together while I am engaged in the process, and sometimes even when I think I am not engaged in the process. I believe this is part of my creative development. As I develop as a creative person I am always engaged in some part of this process as it increasingly becomes who I am and how I think. This is also part of how I participate/engage in divergent thinking.

Much of my research needed for this research enquiry was already in my head. I had prior knowledge and understanding of what creativity was. I did however still need to research my options for representing myself – what would a self-portrait of my creativity be? I knew that it didn’t even have to include my face, but I also knew that I didn’t want to limit the communication of the work by stretching the creativity too far outside the box. There are many decisions that I make along the process of creativity. Perhaps not everyone makes these decisions as consciously as I do but I do believe they are decisions that need to be made. I chose to create a self-portrait because the research I am doing is specific to me and my creative process and its relationship to mindfulness. I made the decision to use my face as the subject of my self-portrait as I wanted an image that more people could identify with and understand as a self-portrait. I began taking photos and collecting research images of myself and playing with the images in order to make a decision about the composition and to have several images to work from. I downloaded them in to my computer. I then used a program, Microsoft Word, on the computer to manipulate the photos in a way that skewed the images so that they were no longer a realistic rendering and had more feeling and energy to them. I knew I liked this look better than a realistic look to the photos, and in retrospect I feel I did this to show the energy, and variety of options found in creativity – there is not one answer but many
possible solutions – and so the self-portraits should reflect this by having not one line but many lines. It also reflected the idea that at the beginning of the process there are many things going on in my head and nothing is crystal clear, rather fuzzy inklings of possible solutions and fleeting ideas (figure 7).

![Figure 7. Examples of image research in the beginning stages of creativity.](image)

The next stage of my creative process is the brainstorming stage which is characterized by writing and drawing ideas, making lists, and again, gathering information. Over the years I have come up with many creative devices to provoke brainstorming. For example I initially begin by writing all the possible solutions I can come up with. Next I challenge myself and my creative divergent thinking skills by limiting my responses with criteria I randomly or specifically and purposefully employ. For example, I love the colour red. What if I had to have red in all my answers and solutions? I see a clock on the wall. How can my solution incorporate a clock?

For this project I wanted it to reflect myself and my creativity, so I wrote about and generated ideas from my past creative endeavors, my thoughts, and other things that would represent me. It is within the stage of brainstorming that creativity researchers place divergent thinking. Divergent thinking is idea generation. I believe that because of
my experience with creativity I have developed many strategies for idea generation and divergent thinking. Sometimes I let my mind wander and guide the criteria that I limit my solutions with. To continue with the example used on the previous page, I see a clock on the wall how can my solution incorporate a clock? I might not be able to generate any ideas from this challenge and so I become frustrated. In that instance, I let it go and wonder how frustration can be incorporated into my solution. If I exhaust the option of frustration, what about using other types of moods or feelings to direct my brainstorming? What could a happy solution look like? Or a sad one? I have learned to employ other techniques for brainstorming and getting a variety of ideas to help solve the problem creatively as well. I might go back to the research stage and ask how did someone else see or interpret this or a similar problem? What is their perspective? What would they see that is different from my perspective? How would a child look at this? A man? A logical thinker? Sometimes I use something I desire to be in the final outcome to force my creativity. For example how can I make this simple so that everyone can understand it? Or how can I include my passion for art education or the environment? Having learned about, and practiced using, creative devices throughout my education and career as an art educator gives me a wide range of techniques to generate ideas at this stage. Brainstorming as a stage in the process appears after research. This is because it is here that I brainstorm for ideas, but, as I have already described, I also brainstorm during the research stage to get out all the knowledge I have on the topic of my question or problem at hand. During the brainstorming phase is traditionally where other scholars on creativity have put the divergent thinking skills.
The next stage in my process corresponds to the incubation stage. In scrutinizing my behavior and habits during this phase I walked a lot, swam, biked, left the situation to go out into nature, took breaks. Perhaps I did this to simmer ideas and provoke the ‘aha!’ moment or get the spark that would allow me to avoid the deductive work of converging my thinking on a solution. This break time became a newly discovered stage in my creative development. It seemed that this stage was inserted when things got difficult, when I couldn’t find answers, when I ran out of ideas, when I was frustrated, and even when things seemed to be going well and I just needed a break. Initially I called it my exercise stage or my required break stage. I wasn’t sure it was even a stage so much as an escape. I likened it to the incubation stage, but knew I used it differently, more often for sure. At first I just thought, as with the research and brainstorming stages, that I used this stage less linearly than I once thought. But, the more I reflected, the more I felt that what I was doing was not the same as the incubation period. This exercise/nature/getaway activity that I was engaging in would often produce ‘aha!’ moments and I would use my phone’s voice memo, or any scrap of paper, to jot down these ideas before they were lost. But, I felt they were more than just that, and I had to inquire about this gut feeling. I began by going back to recall what I had learned about the incubation stage in the BBC Horizon special the Creative Brain (Dart, 2013).

When I looked more closely at how I used exercise during this stage, I realized that I like to walk and I walk a lot. I believed I was doing this for physical health, but I realized that this walking gave me something less tangible. I reflected on my knowledge that I used walking to and from work to as a means of thinking about reflecting on the start of my day what needed to be done, how I would tackle things, and on the way home
reflecting on the day, putting thoughts and ideas to rest releasing work to look towards my changing role to mother wife and my home life. I used exercise, walking in particular, in my daily life for more than just physical health. I felt there was a link between how I used it in my everyday life and how I was using it in my creative process. I felt that my incubation stage was linked to exercise and that I spent by far the most of my time in this stage, and it was a stage that I revisited freely and often, the most often of all stages. I spent a lot of time there, consciously but also unconsciously. Exercising was like an instinct. I walked every morning and biked, swam, ran, did yoga or walked again nearly every afternoon. 1-2 hours of everyday was spent in this stage. This stage accompanied me as I progressed through every other stage of my creative process.

Through my research I learned that I need a lot of time away from the problem. Time to think, and not think. Time to reflect and rest. The rest or distance stage of my creative process occurred more frequently and for longer periods of time than I initially perceived. As a busy working mom I have never had large chunks of time to dedicate to my creative problem solving. Instead I work on things by chipping away at them here and there thinking about my work as I walk to school or do the dishes. I used to think that this way of working was dictated by my lifestyle, and perhaps it was, but now it is part of my creative process. I say this because on my educational leave when a large part of my lifestyle changed and I had more time to spend on my research and less interruptions to my work, I found myself needing to get up and walk, bike ride, swim, garden, do dishes, clean or do laundry or any other number of things other than my task of working on my creative research. The idea that this time is needed for our brain to uncover a solution, or have its ‘aha!’ moment is not new. In the BBC Horizons documentary on the Creative
Brain (Dart, 2013) researchers reveal results from studies that indeed support this as part of the normal creative process. I was surprised at the amount of time I needed and how often I needed it. For instance I would “take a break” after every stage of my creative process and sometimes during the stages, and sometimes more than once during the stages. An outsider might look at this as procrastination, and I was even afraid that perhaps this is what it was, but inevitably I would get a thought, an idea, a spark of something that I had to write down, or record in into my voice memos on my phone, or the spark would motivate me to get back to work immediately, dropping the other task at hand altogether. Sometimes this spark would cause me to restart completely looping back to the beginning, or back to part way through the process somewhere before the stage that I was already at. Sometimes the spark would create a whole new problem or line of inquiry that I would stash away for another day, another project, and another research inquiry perhaps.

The first large/ significant discovery in my research into my creative process was that I used exercise for breaks, time, distance and incubation and that I used them far more often and for longer periods of time than I realized. Not only was it its own stage in my creative process it was also a chorus to every other stage. I struggled with what to call this stage, the escape and exercise stage? Later I was to find out that during this stage I was seeking a type of mindfulness meditation called open monitoring meditation that benefited my divergent thinking.

The next stage in my creative process is choosing a solution which requires convergent thinking. If I haven’t yet had my ‘aha!’ moment or subconscious spark during the incubation phase, this can be a laborious deductive task of analyzing the pros and
cons of my ideas and narrowing them down to the best possible choices. I can be fairly analytic and am practiced at this stage. I felt for this problem that I wanted to be authentic and do the best to really push myself, so instead of being really diligent here, I found myself exercising more and going back to the incubation period. It was like I didn’t want to settle for the best idea on my list, if my list didn’t have the best idea on it, but instead, to realize the best idea altogether. Sometimes I just have to start something, and because I was at what seemed like an impasse with no satisfactory ideas, I just simply began to create with the best of the ideas I had so far in hopes that the painting, the act of creating itself, would give me my ‘aha!’ moment, or lead me there somehow.

This last stage of the process, product/verification, was to create the work that I decided upon. This work was already started, as I started previously in hopes of having the acrylic medium speak to me. I had painted my portrait using lots of colours, and textures, paint and marker. I used grid lines as a scaffolding technique to draw my face and left them under the painting showing through in some instances as I wanted these grid lines, the building blocks of my painting to represent the foundation of my creative process, the research, the preparation needed. I brainstormed about how to show the part of the process that was entangled, how to show the revealing of the mindfulness. I circled back to the research and brainstorming stages and found out how to make the silver scratch off paint that is used in scratch off tickets, did some tests, made it successfully and then decided not to use it. I thought of yarn all tangled up and thought that imagery could be useful to represent the untangling of the creativity and mindfulness. I conceived of ways in which to use yarn untangling or unravelling within my self-portraits. I observed other works that I created in my studio, and as I have already said found one
that spoke to me. It was a painting of an arctic sky and northern lights emerging as a wolf. It was an illustration I did for the poem: “The Cremation of Sam McGee” by Robert Service (figure 8). The wolf emerging from the night sky reminded me of how mindfulness emerged from my creative process and I decided to use that same technique. It was beautiful, readable/recognizable and slightly elusive just like the mindfulness in my process. This caused me to restart the work. I photographed my process up until now (figure 9), and here I painted right overtop of what I had, which is an example of the product verification stage and the false starts and looping back that occur within my process. Even when I think a work is complete, sometimes I get inspiration to take it in another direction. Other times when I had more planned for a work of art I finish before the plan comes to fruition because I realize what I have is enough. More often one thing finishes, and in the process, that product gives birth to many more
ideas/problems that need to be pursued or creatively solved.

Figure 9. Different stages during the creative process for the research painting Mindful Focused Attention.

After my arts-based research, actively recording and observing my own creative process, I realized that the process I employ really looks like this (Figure 10): each stage of the process is separate but linked by ribbons of thought, connected by the fact that the whole process is at once in my mind and thoughts even while working on one part of the process. The imagery in each section is often repeated especially nature and exercise imagery. As well, the first few stages are more compact/filled with concrete visual representations of what I do at this stage where the middle stages show my mind wanders and imagery from other stages are repeated as I often travel between stages back and forth as I progress. The head is mine. The image has been set up to read from left to right.
Figure 10. Research results. What my creative process looks like. Watercolour and ink on paper, 11" x 15" (27.94 cm x 38.1 cm).
Figure 11. Research Results. A visual representation of my engagement in open monitoring meditation through exercise and focused attention meditation through zentangle art. Watercolour and ink on paper, 11” x 15” (27.94cm x 38.1cm).
Figure 12. Research Results. A visual representation of my engagement in open monitoring meditation through exercise and focused attention meditation through zentangle art. Watercolour and ink on paper, 11” x 15” (27.94cm x 38.1cm).
Figure 13. Research Results. A visual representation of my engagement in open monitoring meditation through exercise and focused attention meditation through zentangle art. Watercolour and ink on paper, 11" x 15" (27.94cm x 38.1cm).
Figure 14. Research Results. A visual representation of my engagement in open monitoring meditation through exercise and focused attention meditation through zentangle art. Watercolour and ink on paper, 11” x 15” (27.94cm x 38.1cm).
Divergent Thinking and Open Monitoring Meditation

In creativity there are different forms of thinking required at different stages of the process. The two main forms of thinking are divergent thinking and convergent thinking. After dissecting my creative process I realized that it is these two forms of thinking that are somehow entangled with mindfulness in my practice. Hommel, B., Colzato, L., Fischer, R., & Christoffels, I. (2011) explain the two forms of thinking in this way:

Divergent thinking can be defined as the process that allows people to generate as many responses as possible based on relatively weak constraints. As an example, in Guilford’s (1967) alternate uses task (AUT) people are presented with a simple object, such as a pen, and asked to generate as many uses for that object they can think of. The results are commonly scored regarding the number of responses (fluency), the number of different categories being used (flexibility), the degree to which the responses differ from the standard or group mean (originality), and the amount of detail (elaboration). In contrast, convergent thinking can be defined as a more strongly constrained process that searches for one possible outcome. As an example, in Mednick’s (1962) remote associates task (RAT) people are presented with three concepts, such as “hair,” “stretch” and “time,” and they are to identify the one concept that fits with all three in terms of association, meaning, or abstraction, such as “long” in the example.” (para. 5)

The first morning of my study I walked for an hour. I am a walker. I walk to work and use this time to gear up mentally for the work ahead. I walk home from work and during the walk I review the day, put it to bed and look towards being with my family and my family duties. Being on educational leave and working from home I had stopped walking
regularly. But now I was inspired to walk again. It could have been the problem I faced or it could have been the nicer weather but as I pondered this I realized that walking and exercise was part of my creative process. Within the divergent thinking stage, when I exhaust my initial strategies and ideas, I instinctually take a break for a walk or some sort of exercise in order to generate more ideas. I revisit this exercise when I am stuck and challenged at other stages of my creative process as well. This realization sent me looking for support in the literature. After some reading I realized that what I was doing was similar to what some researchers called Beethoven’s long walk, or mind wandering and upon even further investigation found that it is a type of mindful meditation called open monitoring meditation. This big part of my creative process that I employed at the divergent thinking stage and every road block, and often sometimes for reasons unknown, was a type of mindful meditation – I had unraveled some of my mystery.

So what is open monitoring meditation and how did I make the connection? I went down a literature review rabbit hole and came out the other side with this new information. My first line of research was to see if I could connect my experience with any other creativity research. To my surprise I found a number of studies connecting exercise and creativity. As I continued to explore the research I found connections between walking and meditation. When I delved into that literature I found connections between my experiences and open monitoring meditation.

Crosland (2011) describes open monitoring meditation:

In “open monitoring meditation” one begins to practice “awareness of thinking.” All we must do to practice this form of meditation is to be aware of our thoughts and feelings and observe them without attachment. In many ways the meditator
becomes a scientific observer of the workings of his or her own mind, and begins
to have an increasing awareness of just what thoughts bring about changes in
emotions: what makes them happy and what makes them sad.” (para. 3.)

As I continued to delve deeper into existing research on open monitoring meditation to
try to understand it’s part in my creative process I learned that in open monitoring
meditation “the individual is open to perceive and observe any sensation or thought
without focusing on a concept in the mind or a fixed item; therefore attention is flexible
and unrestricted (Colzato, L., Ozturk, A., & Hommel, B., 2012, para. 4) and that it
“induces a control state that promotes divergent thinking, a style of thinking that allows
many new ideas of being generated.” (Colzato, L., Ozturk, A., & Hommel, B., 2012,
para. 1).

Before I made the connection between the ways I use exercise in my creative
practice and open monitoring meditation I first explored the literature for connections
between exercise and creativity.

I instinctually felt that the employment of exercise was a part of my creative
process, but I needed more tangible proof and some supporting evidence. I knew that
during my exercise sessions I simply take in my surroundings and let my mind wander.
As I became aware of this as part of my process I remembered having a conversation
with my brother, who is a cycling enthusiast, and between us we discovered that some
exercise required highly specific focus like trail riding where your body and brain are
constantly working to solve extreme terrain problems at every second of your ride, but
others, like distance road riding, was less intense and more about endurance and so your
mind could wander a bit as your body did the repetitive work. This made sense and it
rang true with past research that I had learned in the BBC Horizon special on creativity (Dart, 2013) where testing done on creativity showed that if a person is given a highly demanding task while pondering a creative problem, specifically the divergent thinking part, they perform poorly, but people who are asked to do nothing while pondering the creative problem also perform poorly. In this study the researchers found that it was the people who were asked to do a mildly challenging task that were the most creative. At this stage, it appeared that I chose exercise for my mildly challenging task to let my mind wander and brain storm, exploring divergent ideas in answer to my creative problem.

From there, I found other evidence of creative people engaging in regular exercise. For example: Ariana Rebolini (2014) writes:

Composer Erik Satie walked roughly 10 kilometers from Arcueil to Paris every morning. Saul Bellow rode his mountain bike. Novelist Haruki Murakami keeps a famously intense running schedule, which he described in the *Paris Review*:

> When I’m in writing mode for a novel, I get up at four a.m. and work for five to six hours. In the afternoon, I run for ten kilometers or swim for fifteen hundred meters (or do both), then I read a bit and listen to some music. I go to bed at nine p.m. I keep to this routine every day without variation. The repetition itself becomes the important thing; it’s a form of mesmerism. I mesmerize myself to reach a deeper state of mind. (para. 1)

Other examples of famous creatives who built walking into their daily routines include: Beethoven, Goethe, Tchaikovsky, Gustav Mahler, Kierkegaard, Charles Dickens, Charles Darwin, Steven Jobs, and Mark Zuckerberg. It turns out that a study by Marily Oppezzo
and Daniel Schwartz (2014) found that walking can make you 81% more creative on Guilford’s Alternative uses test for divergent thinking. Ariana Rebolini (2014) writes:

Whether it lets the mind wander, improves mood, or functions as an important part of daily ritual, regular physical activity has been linked to improved creative thinking…. athletes outperformed non-athletes in tests of both divergent thinking (coming up with many possible solutions to a problem) and convergent thinking (coming up with one solution to a problem).

On my hunch that exercise was the link to the feeling of mindfulness in my practice, I began to look for connections between exercise and mindfulness. Meditation coach Giovanni Dienstmann (2015) explains walking meditation and lists 6 actual types of walking meditation:

1. Theravada walking meditation – a Buddhist training that can have them walking up to 15 hours a day!
2. Zen walking – which includes walking clockwise around a room keeping step with your breathing.
3. Thich NHAT HANH’s walking meditation
4. Yoga walking meditation – primarily a breathing training through walking and breathing.
5. Daoist walking meditation – which is more focused on physical health.
6. Mindfulness walking meditation.

The Mindfulness walking meditation is explained by meditation coach Giovanni Dienstmann (2015) as:
An adaptation of Buddhist walking meditation by the modern mindfulness movement. Instead of a practice of concentration (focused attention) it is more of an open monitoring practice. In other words the attention is not laser focused on the soles of the feet, instead, it is present to the variety of sensations and perceptions of the present moment.

What I am doing during my walking and other exercises seems to resemble most similarly number 6, the mindfulness walking meditation, described above, an open monitoring mindful meditation practice. This break though gave me the information and language to continue my research and brought me to research that linked creativity, specifically divergent thinking with open monitoring meditation. Once I knew what to look for, I found two research studies specific to both exercise and open monitoring meditation that linked to creativity, and in particular divergent thinking. The first was ‘Meditate to Create: The Impact of Focused-attention and Open-Monitoring Training on Convergent and Divergent Thinking’ (Colzato, Ozturk, & Hommel, 2012). The second was “The impact of physical exercise on convergent and divergent thinking” (Colzato, Szapora, Pannekoek, & Hommel, 2013).

It turns out my gut feeling that there is some sort of mindfulness inherent in my creative practice was correct, and in fact that my experiences are not singular. What are the implications of this? It seems obvious that my research findings have implications for my personal creative practice. However, the implications of these finding spill over into the curriculum I teach as well as the method and practice of teaching it (my pedagogy). As Connelly and Clandinin (1988) point out, what the curriculum is and how it is implemented is “intimately connected through the personal knowledge of the individual
teacher.” (P. 4) and with this new personal knowledge I am sure there will be 
implications for my teaching practice, but, there is indeed a third area that I see this 
research having an effect, and that is on the students themselves.

Csikszentmihalyi (1997) wrote: “It is how we choose what we do, and how we 
approach it, that will determine whether the sum of our days adds up to a formless blur, 
or to something resembling a work of art” (p.128) The implications of my research have 
effects on my creative process, which in turn effects my art and my artist identity, which 
in turn effects my overall identity, my life, and how I live it. It may seem implausible that 
such a small bit of information can have such a large effect but I know it to be true. Just 
as the tiny pebble thrown into a still pond can have recurring ripples effecting the water, 
so too this new information, should I allow it, can affect all areas of my life. Having a 
greater knowledge and understanding of my creative process and seeing how it is linked 
to mindfulness and meditation empowers me to take control of my own creative 
development improving not only my creative visual art but all areas in my life that 
require creativity. As my creative capacity grows all areas of my life will be affected as 
my life is indeed a creative endeavor.

Learning that the time I spend in open meditation is part of my creative process 
validates the time I spend there. The knowledge that this open monitoring meditation 
stimulates idea generation has implications in developing my divergent thinking skills. I 
can engage purposefully in this when I need to generate ideas, and feel confident in using 
it as a strategy, rather than second guessing my instinct with worry that that perhaps the 
use of exercise is a tactic of procrastination, or avoidance. Indeed knowing that exercise 
is part of my creative process I can plan for it and build it directly into my creative
practice. I can’t ignore the fact that the exercise I get within my practice of creativity benefits my physical health as well. When I am stuck, blocked, or losing my focused concentration on a project it is often solved during this open monitoring meditation through exercise. In the BBC Horizon Documentary “The Creative Brain: How Insight Works” (Dart, 2015), Prof. Jonathan Schooler from the University of California believes that “mind wandering seems to particularly facilitate the creative process” but that “not all mind wandering is equal” (50:33). Having this new found insight regarding open monitoring meditation in my creative practice allows for experimentation with other types of open monitoring meditation to expand my skills in this area.

The implications of this research extend past my personal creative life and into my teaching, both curriculum and pedagogy. I will use my findings to add to my present knowledge of the creative process when teaching students about creativity. I can access my own process as an example of how one might approach creativity, and model this for the students in lessons. I can use my new found knowledge of open monitoring meditation to add to the other devices I already use when teaching divergent thinking and idea generation. It is important to note that in creativity research, and creative development research there has already been much research done in the area of divergent thinking and idea generation. For example, traditional tools such as brain storming, thought webs, to more recent inventions of activities such as Plussing by Robert Kelly (2015). I would use open monitoring as a tool for idea generation to compliment these other techniques not replace them. The more tools and strategies I can introduce and share with my students, the more chances they will have at success.
In addition to using my findings to enhance the curriculum this research can be used in my lesson plan design, building into the lesson time and activities that allow for open monitoring meditation. For example, ensuring time and space in the lesson to allow for mind wandering, or more specifically creating an activity where students individually go for a walk/wander around campus to open meditate on an assignment or project recently given to them for idea generation. Another way to implement open monitoring meditation would be to build a creative lesson around it. I can think of one that I use in my classroom already - although until this study I was not aware that it essentially uses open monitoring meditation as the idea generating activity – I just knew it worked as a great creativity assignment. The lesson is a lesson in developing and practicing creativity and in the lesson there is open monitoring meditation built right into it, however until I completed my research, I did not realize this is what I was asking the students to do. The assignment requires students to create a found poem, by wandering around the campus and passively take note of things that catch their attention. Once they have had something draw their attention they are to write one or two words down and then let that thought or idea go and continue along their way, repeating this process. When we are done I ask them to look at their list of words and create a found poem using at least seven words. They can take those words out of context and order. After the poem is created we illustrate it or create a piece of art evoked from the found poem. In this assignment the whole creative process is based on open monitoring meditation.

The simple fact that I am more informed on the topic of creativity alone impacts my students through the general assumption that with greater understanding and confidence of subject matter comes better teaching. There is also idea of the
complimentary curriculum which “is situated in the kinds of experiences teachers provide for students, as well as in the ‘pedagogical premises and practices’ that result from the teachers beliefs.” (Moroye, 2013, p. 380).

**Convergent Thinking and Focused Attention Meditation**

The second main type of thought involved in the creative process is convergent thinking. Convergent thinking, in contrast to divergent thinking, is the ability to use all of one’s knowledge to come up with one ‘correct’ or best answer to a problem. In the research I found on open monitoring meditation and divergent thinking, the researchers often cited results involving convergent thinking. For example Oppezzo and Schwartz (2014) found that walking seemed to improve results for divergent thinking, but not for converging on a single answer. As I continued my research into open monitoring meditation, I learned about another type of meditation called focused attention meditation. In their study, Lippelt, Hommel, and Colzato, (2014) juxtaposed focused attention meditation (FAM) with open monitoring meditation (OMM) in this way:

> Usually, FAM is the starting point for any novice meditator (Lutz et al., 2008; Vago and Silbersweig, 2012). During FAM the practitioner is required to focus attention on a chosen object or event, such as breathing or a candle flame. To maintain this focus, the practitioner has to constantly monitor the concentration on the chosen event so to avoid mind wandering (Tops et al., 2014). Once practitioners become familiar with the FAM technique and can easily sustain their attentional focus on an object for a considerable amount of time, they often progress to OMM. During OMM the focus of the meditation becomes the monitoring of awareness itself (Lutz et al., 2008; Vago and Silbersweig, 2012). In
contrast to FAM, there is no object or event in the internal or external environment that the meditator has to focus on. The aim is rather to stay in the monitoring state, remaining attentive to any experience that might arise, without selecting, judging, or focusing on any particular object. To start, however, the meditator will focus on a chosen object, as in FAM, but will subsequently gradually reduce this focus, while emphasizing the activity of monitoring of awareness. (para. 3.)

With this new knowledge I had to ask myself if I engaged in the focused attention meditation they spoke of, and if so is there any relationship between focused attention meditation and convergent thinking in the same way that there is between open monitoring meditation and divergent thinking? I found one article specific to the topic. Researchers Colzato, Ozturk and Hommel (2012) from Leiden University in the Netherlands published an article “Meditate to create: the impact of focused-attention and open-monitoring training on convergent and divergent thinking” where their results show:

[T]hat FA meditation and OM meditation exert specific effect on creativity. First, OM meditation induces a control state that promotes divergent thinking, a style of thinking that allows many new ideas of being generated. Second, FA meditation does not sustain convergent thinking, the process of generating one possible solution to a particular problem. (para. 1)

Even with this new information, the focused attention meditation remained in my thoughts. I felt there was a connection between my creative process and focused attention meditation but if not through divergent thinking, then how? Sifting through the readings
and my own reflections I revisited the definition of focused attention meditation where the “individual focuses on a particular item, thought, or object. Everything else that might tend to attract attention, such as bodily sensations, environmental noise, or intrusive thoughts, is to be actively ignored by redirecting attention constantly back on the same focus point” (Colzato, Ozturk & Hommel, 2012, para. 4) and thought about my experiences with art when I became so absorbed in my work that I lost track of my surroundings including time. I was experiencing focused attention meditation. This was the connection. Focused attention meditation is not linked to convergent thinking but instead to the final step of my creative process, executing the creative idea and giving it form. In the final act of creation it is possible to engage in focused attention meditation, but not necessary. I wondered what sort of an impact being in a state of focused attention meditation would have on this stage of creation but found no research on the topic. I still have many questions surrounding this topic. Does the skill level of the person engaging in the creation might have an effect on their state of focused attention during creation? It is still unclear from my research whether or not the focus attention meditation is acquired before the execution of the artistic skill, or production phase of creativity or if the focused attention meditation is acquired through this phase. Perhaps it depends on the act itself. For example, in my experience, the creation of a zendala (Figure 15) induces a focused
state like that of focused attention meditation. I teach my grade 10 art class about the principles and elements of art. One of the lessons is pattern and texture. The students notice and record or collect textures and patterns from their immediate environment as well as create textures on their own from images or ideas they may have seen and experienced in their collection of patterns and textures. They then apply these textures and patterns into a zendala design. The process of collecting and creating the patterns and textures may be likened to the research and brainstorming part of the creative process, but when the students are ready to begin to create their zendalas they become highly focused. In my experience, the classroom is nearly silent, nearly all of the time, no matter what class or the composition. This assignment requires focus, but it also induces focused attention meditation. What comes first - the chicken or the egg? Is a state of focused meditation required for in order for these students to complete this assignment or does the assignment put or pull them into the focused meditation? Is the act of creating a zendala in fact a focused attention meditative practice? Clearly there is much still to explore on this topic. For example, I suspected that it might be the medium and my fluency or expertise with the medium that might affect achieving this state of Focused Meditation. I also suspect it might be my state of readiness, and clarity with the
project. If I know exactly what I want and need to do and how to do it, it becomes very easy for me to obtain this focused meditative state as I work away at completing the task.

Unlike open monitoring meditation which is a large part of my creative process, focused attention meditation seems to only occur in the last stage of my process and even then it is not clear to what benefit, if any, it serves to the creative process. Can we assume that attaining focused attention meditation in this last stage of creativity, the creation of the product, that the work produced will be better? Similarly, can we assume that we will benefit from this focused attention meditation in ways that research shows benefit those who practice focused attention meditation for the purpose of mindfulness? Yet another question that arises from my findings on focused meditation in the production stage of the creative process is regarding the level of difficulty of the production in relation to the participant’s skill and if and how this relationship effects the state of focused meditation. Must the production or implementation for the final product (whether it be painting, sculpting, writing, building, metal work, weaving, etc.) fall within the participant’s skill range for them to achieve focused meditation? I was working within my skill range. If the level of skill is greater is there more of less of a chance of achieving focused meditation? It seems to me that a highly skilled artist may be able to achieve quality work with less focus because of his/her skill level. Would their work improve if they were in a state of focused meditation or not? Would an artist be able to achieve a state of focused meditation during the production stage if their production skills weren’t up to the demand of their production task? What other factors affect the attainment of this state of focused meditation? Is achieving this state really all that important in the production of a creative
endeavor anyhow? Mihaly Csikszentmihalyi (1997) writes about flow and the secret to happiness. His description of being in the state of what he calls Flow is similar to that of focused attention meditation.

He has devised a chart explaining what is needed to get to the state of flow (figure 16) that makes me wonder if there is a balance of skill to task in the production stage of the creative process that is ideal for achieving and sustaining focused meditation. Or if the focused meditation is achieved before the task can it be sustained no matter the skill or training level? Csikszentmihalyi looks at “the quality of experience as a function of the relationship between challenges and skills. Optimal experience, or flow, occurs when both variables are high” (Csikszentmihalyi, 1997, p. 31). What he writes about flow seems very similar to my experiences with focused meditation creating art work. He also writes:

Because of the total demand on psychic energy, a person in flow is completely focused. There is no space in consciousness for distracting thoughts, irrelevant feelings. Self-consciousness disappears, yet one feels stronger than usual. The sense of time is distorted. Hours seem to pass by in minutes, when a person’s entire being is stretched in the full functioning of body and mind, whatever one does is worth doing for its own sake; living becomes its own justification. In the
harmonious focusing of physical and psychic energy, life finally comes into its own. (p. 31-32)

In further researching Csikszentmihalyi’s ideas on flow and creativity I find many of my questions regarding this state of focused meditation can be answered by his theories. For example, my question regarding the focused meditation and whether it must come before or during the act of creating seems silly after reading his thoughts on focusing interest:

If you are instructed in something, you will focus on it, and if you focus attention on anything, it is likely that you will become interested in it. Many of the things we find interesting were not so by nature, but because we took the trouble of paying attention to them. (32)

Learning what I have about my creative process and the links to mindfulness and meditation will lead to improved creativity and physical and mental health which will lead to a better quality of life overall and a more fulfilling and creative lifestyle. What Csikszentmihalyi says above has implications for pedagogy and learning.

The effects of this research extend past my personal creative life and into my teaching, both curriculum and pedagogy. I will use my findings to add to my present knowledge of the creative process when teaching students about creativity. I can access my own process as an example of how one might approach creativity, and model this for the students in lessons. I can use my new found knowledge of open monitoring meditation as a means of divergent thinking and idea generation. I can use focused meditation as a tool to help students in their interest of the curriculum and their own creativity.
My research impacts my students in two ways. The first is that the classroom environment and content of the creativity curriculum will be improved. With improved creative education experiences, and opportunities, students may begin to understand their own creativity more clearly and the value of creativity may begin to rise. The second is that, if in fact, the findings regarding mindful meditation and open monitoring meditation are transferrable to others’ creativity, those students might benefit from experiencing mindfulness daily by participating in my art classroom.

As my knowledge regarding creativity and the creative process grows, and my own creative capacity grows my students will benefit from my increased knowledge. As teachers, the better we understand our content, the easier it is for us to find ways in which we can teach our students this content. For example, if I only know one creative process that is all I can give to my students when I teach, to help them with their own creativity. The more I know, the more I have to offer. With greater knowledge, when a student doesn’t understand what I am trying to teach in one fashion, I have access to other ways of teaching the concept or idea, in this case, creativity and the creative process.

“Generally, the creative capacity of the educator has to be greater than that of the student to enable an educational culture of creativity.” (Kelly, 2015). Developing my understanding of creativity through arts-based research allow for both my knowledge and understanding to grow, but also my creative capacity, which, according to Robert Kelly (2015), will help to enable an educational culture of creativity. This is part of an overall classroom environment that promotes creative learning. This environment is very important to creative education. In addition to teaching the creative process, the environment of the classroom is important when teaching creativity. Students can have
anxiety over not knowing what to do, not understanding what is expected or not having a personal connection or meaning to a project they are to be evaluated on (Gude 32). There are many sources for student resistance, anxiety being one of them. Other reasons may be: finding oneself outside the comforting constraints of conformity, being reluctant to jeopardize one’s status as a good artist by making childish looking art, or feeling that the activities being asked of him or her are irrelevant to the real issues of their community. Growing my creative capacity will put my students at ease by creating a safe creative environment for the student.

My research findings were expressed visually in my last 4 paintings (figures 11-14) through the literal depiction of the exercise that I engage in to reflect open monitoring meditation enhanced with detailed pen work reminiscent of the zendala patterns that I associate with focused attention meditation.
Chapter 5: Conclusion

Creativity (as an outcome) is found throughout the kindergarten to grade twelve New Brunswick curriculum (Curriculum Development Anglophone Sector. 2016). It may not be a surprise to find that creating is a main strand in the art curriculum (K-12), but a simple search for the word ‘creativity’ in our other foundational documents reveal its place throughout our New Brunswick curriculum as well. For example in the “New Brunswick Foundation Document for Science K-12”, Essential Graduation Learnings lists “use variety of strategies and perspectives with flexibility and creativity for solving problems.” (p. 9) and goes on to say “Science and technology education will address the needs of students as citizens who need to be critical thinkers, informed decision makers, and creative problem solvers. (p. 9). Similarly the Social Studies Foundation Document reveals Creative Problem solving in the Essential Graduation Learnings (p.8) As far as 21st century learning goes, creativity has emerged as one of the important curricular skills needed to be taught in order for our students to find success in our quickly changing and unpredictable future. In spite of its place throughout our whole curriculum, teaching creativity has largely been left to the creative fine arts. Traditionally undervalued in society, we have begun to turn our attention towards creativity as a desirable and necessary skill in today’s society, job market and economy and into the future. Research has proven the importance of creativity for improving our ability to live our daily lives in a more gratifying way by teaching empathy, patience, and problem solving, not to mention the role that the creative arts plays in our how we spend our free time whether we ourselves participate in creativity directly through our hobbies, or simply enjoy what others have produced through listening to music, watching TV, movies or theatre, playing
video games or using any number of technology, such as smart phones, created by others. Looking towards the future of our society on a large scale, experts have also pinpointed creativity as an essential skill in sustaining and developing our place in the world economy. There is no doubt about the importance of creativity, and this has put a demand on it as an essential skill, resulting in a renewed interest in creative research in many fields. There is still much to be learned about creativity as it remains an elusive topic, one that changes from discipline to discipline and person to person. The more we research, the more we learn, and for the field of education this additional understanding helps to write creativity curriculum, and aids in teacher understanding of the creativity curriculum and its importance. As teachers know more and begin to feel comfortable with creativity in their discipline we will become better at teaching these creative outcomes and graduating students with the creative skills they need to be successful.

It falls upon the shoulders of those in creative arts disciplines to take the lead in this research. Even with all that we know about the importance of creativity, as a complex topic, often believed to be specific to the arts, creativity is at risk of being misunderstood, and its importance diminished. Creativity researchers in the creative arts have long known the intrinsic value of their subject but also know that creativity is central to many disciplines and as a skill is important to many subjects beyond the creative arts such as scientific discovery and technological development.

As a creative arts specialist, an artist, teacher, and student, I have had many experiences with creativity and the creative process and know first-hand its importance in my life and my students’ lives. I have seen and experienced the sense of pride and ownership which brings confidence and curiosity that engaging in creativity breeds. I
understand the intrinsic value of creating and I have experienced the well-being obtained from participating in the creative process throughout my life. This type of knowledge of creativity, from those who regularly participate in it, is difficult to explain as it comes from personal experience. It is not quantifiable but rather qualitative. It is from this personal practical knowledge of experience that I intuitively felt there to be a relationship between creativity and mindfulness. Mindfulness practitioners as well as art therapists have used art in their practice with the same understanding and observations that I have, but there is little research into what the relationship between the two is.

As a high school teacher I have seen a huge increase in the rise of mental health issues in my classroom in the past 16 years, and research from the World Health Organization supports this (De Angelis, 2004). When I first began to learn about mindfulness and its benefits to our students I was intrigued. The wellness and satisfaction that I experienced in my own creative practice, when added to my new learnings of mindfulness and my knowledge of growing mental health issues within schools led me to believe that there was a relationship between the two that needed to be explored. With more information regarding this relationship I felt that as a creative arts educator teaching in a system that was in need of mindfulness practices in our curriculum I could find more tangible evidence of this relationship between the mindfulness and creativity in my own practice with the hopes that this might lead to more research that could be helpful both to our needs as teachers being challenged to graduate creative students ready for the uncertainty of the future, but also to help raise children who can better handle the stresses of our lives and reduce the numbers of children with mental health issues.
The more I began to see similarities in the traits and behaviors needed for both mindfulness and creativity, I felt sure there was a relationship between the two and was excited at the possibility that this research could benefit both areas of our curriculum: creativity and the emerging curriculum of mindfulness.

After close examination of my own creative practice in relationship to the preexisting literature I discovered that there are indeed two types of meditation that occur during my creative process. These meditations occur at different stages of the process and serve different purposes in creativity. These meditations are called open monitoring meditation and focused attention mediation. While different types of meditation, they both serve the purpose of mindfulness in that the practice of these meditations allows for the practitioner to bring their attention to the present moment. While this study was specific to my own creativity, there is reason to believe that the results could be applied on a larger scale. The open monitoring meditation that was linked to exercise and divergent thinking in my creative process has been linked similarly by other researchers (Colzato, Ozturk, & Hommel, 2012) with work on test groups, suggesting, that while it was not my intent, my findings may indeed be transferrable.

In the previous chapter on research, I have discussed the implications of this research on my personal creative practice, teaching and pedagogy, but what are the large scale implications of this research? There has been enough research on creativity that we know divergent thinking is a part of it. Learning that open monitoring meditation is an effective technique to improve divergent thinking adds a new tool to how we teach and learn divergent thinking, and helps us to understand what state our mind needs to be in to benefit divergent thinking, which will improve creativity skills.
This information not only has an impact on how we understand and teach divergent thinking within the creative process but also will have implications for arts based mindfulness and art therapy and it can pinpoint at what stage in the creative process participants might experience the open monitoring meditation which is conducive to mindfulness. Which might improve their practice.

The relationship between focused attention meditation and my creative practice was less clear. I learned that it is tied to the production stage of creativity. The results show that a state of focused attention meditation is sometimes but not always employed when engaged in the production stage of my creativity. I question how, if at all, the state of focused attention meditation benefitted this final stage of creative process. Knowing that focused attention meditation is a possible outcome of the production stage of creativity, helps pinpoint for arts based mindfulness practitioners and art therapists at what stage the engagement in the creative process participants might experience focused attention meditation conducive to mindfulness, but its benefits on the creative process are unclear. There needs to be more research in this area.

This exploratory research into the relationship between creativity and mindfulness has resulted in findings with broad overarching implications in these fields, but also implications within my personal and professional experiences with my own creative practice, my teaching practice and pedagogy, having immediate effects on my students and colleagues. It has also raised questions for further research.

Further inquiry includes questions such as: Are my personal findings transferrable to others? If so can we use assume teaching creativity including these two meditation types will benefit our students in the ways that other mindfulness techniques do? What
does that mean for teaching creativity? What does that mean for teaching the creative arts? What does it mean for the emerging mindfulness curriculum? What about its implications for the rising numbers of students in need of mental health? Creativity researchers have identified other ways of thinking such as Booth’s (2013) metaphoric thinking – are there other forms of meditation that could benefit these other ways of thinking? As we continue to delve into the complex nature of creativity and begin to understand it more, will it become central to our curriculum, or will its complexity be one more reason to relegate it to the sidelines. Could the creative arts begin to be seen as a subject that not only teaches the skills of the creative arts, but also wellbeing?

Overall, for creativity curriculum and the teachers teaching it, having a fuller understanding of creativity allows us to develop, plan and implement creativity curriculum more effectively. This arts-based exploratory research has uncovered additional information that lends insight into the creative process, adding to our understanding, and also guides researchers to new areas of inquiry.
References


Kelly, R. (2015, October 6). *Creative Development: Transforming Education Through Design Thinking, Innovation and Invention*. Lecture presented at University of New Brunswick Faculty of Education Colloquium Series in Marshall d'Avray Hall, room 356, 10 McKay Drive, Fredericton, New Brunswick


Appendix A

Sample of Journal Work
I need to have a mindwander or mindless easy task before each stage then I push myself to dive into it getting work done - progress - something to reflect on. Some might see procrastination but in these down times my mind is always buzzing thinking connecting adjusting.

2 hours of research for 1st Pass big combination of photography and "selfies" word/image effects looking at imagery of brain creative brain. I found stretches there was a lot of this.

Done before jumping into the past 2 hours of research. I already had the general composition thought out - my head lower left right side of head - right brained - thinking about all stages of creative process. What this looked like didn't mature.
is still in question as I will do 2 similar ones in Watercolour, one in acrylic and decide from then.

* Often in my creative process, I do more than one walk to see which is the 'best' or most effective.

Try not to fall in love with your idea.

* Oh... and when I delve in, I become mindful... focused → 2 hours of focus — then I hop back out!
Instead of diving in and swimming...

I swim first and then dive in...

Work created problem
July 15.

The girls woke up at 9 yesterday. I worked from 5:30/6 to 9 straight then stopped for dinner breakfast and worked with in Kempten (lunch) at 11 until 2. Straight 100 5 interrupted. Stuck by something I already knew - it takes a long time to create art. Went to ruins 2-4 while kids on play date came home made dinner and went to leg swim with Liz. Biked home walked with neighbor. Played piano and back to art until 2AM! Note to self again something I already knew - I do not work well all night. Back to early mornings.

This many swim swim withTj just decided to do some realistic watercolours of the places I do my mind wandering which I have realized is actually an active, as well as an active part of my creative process.

Will take a photo of working bridge. Photo of my bike and the lake pool (or ever of me swimming - Regular size.
Still struggling a bit with the formal, how to present work which medium etc. I am trying to just jump in and kill the doing part of the process guide me - this is also something I learned new about my process. I really need to do - have false starts, produce, change my mind, complete more than one in the same image composition, diff. mediums, a same but diff. comp. to reflect on what worked best.

11.36. I realize when I get 'fledg' or distracted (my mindfulness), I loop back to reassess to keep myself productive in some way if not actually 'creating'. The work of creating and the skill of it requires my full focus and attention to choosing color, texture, holding pen, pencil, brush, pressure stroke, etc...

This type of mindfulness occupies my brain, both sides and my body; there is no slack; if...

I wonder if I was more skilled technically as an artist, if the world then change? This is a good interview question for other artists.
July 16.
Didn't progress as much as I wanted yesterday. Very Tired
But .... I did think to photo document the process
which I am very happy about soo ... I guess that
its good I am not all that far along. In addition
I am having more ideas which also changes
what I thought to be my creative process.
So already I have learned 2 new things
and I am only 3 days into this efficient
research:
① I mind wander even before
I officially begin research/prep which
used to be my first stage.
② I continue to brainstorm
in my 'down' time and this leads to
changes of decisions previously made
in the choose a solution stage and
eventually changes the product.
I am happier with what is being produced
as I look at the process + learning more
and worry about the product less.
Arts-Based research isn't about skill
it is about learning gaining insight + understandings
connecting in an authentic way with the
research as it is being transformed
through the art making.
Students in "May's Creativity course" felt it (some felt it) difficult to distinguish "as if" about the way they think - is this ability to think about how we think related to creativity and/or mindfulness, when we can choose to be mindful, control experience the ability are we in fact "thinking about our thinking?" How is this so is it - linked to creativity - is it through empathy - a characteristic common in and developed through creative habits?

Mindfulness training alters the mindful brain & mood, neural expression of sadness. "My husband always notices when I have done and been creative. "Energy or aura of contentment - at peace"

Mindful ness - "Anterior cingulate cortex (ACC), located deep inside forehead associated with self regulation - process directs attention + behavior, suppress inappropriate knee jerk responses and switch strategies flexibility"

Creativity? + Important in the face of uncertain + fast changing conditions

Mindfulness - hippocampus buried in the temple part of limbic system associated with emotion and memory. Central in receptors for the stress hormone cortisol.
George Shears: you take

1. Focus
2. Sensory Clarity
3. Equanimity

(mental balance and open non-judgmental observing)

3 Basic Skills of Mindfulness

1. Big mind awareness

- Some of thoughts are very intrusive
- And create not a negative side effect
- Can record ideas that move in and out of our minds in mindfulness meditation

You think Genius or Madness? The Psychology of Creativity. Prof. Glenn D. Wilson

Personality & Creativity p. 17, 21 etc.

- high IQ and psychotomia in clarity novelty-seeking
- Risk-taking impulses are non-conformist self-confidence and work addiction

- Associated with high dopamine & testosterone
  (Eysenck, 1995)

- Some indicators of schizophrenia promote creative achievement, but not full blown
  (Vihoskki, 2009).
Dopamine circuits converge in 
* limbic 
and project to 
* frontal cortex 

Systems concerned with reward 
approach + positive mood 
implicated in novelty seeking 
impulsiveness + addictions 

Remote connections a creative trait. 
Apophenia tendency to see meaningful 
patterns where they do not exist.
Labyrinth walk - meditation walk to → & illuminate
Labyrinth rep. Laber's steps, stop on direction/new solutions
Labyrinth rep. Zendala meditation: focused + open meditation
Candidate’s full name: Mariecke Leavitt

Universities attended: University of New Brunswick, Bachelor of Arts, May 1996.

University of New Brunswick, Bachelor of Education, May 1999.

Conference Presentation: “Creative Development and Arts-Based Learning” Learn2Learn 2015 conference.