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Using the Torrance Incubation Model to Assist Parents with Developing Creativity in Their Children

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A Project in Creative Studies

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Submitted in Partial Fulfillment

Of the Requirements

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Abstract

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The purpose of this project is to utilize the Torrance Incubation Model (TIM) to create a Creative Guide Book to the city of Buffalo, New York. The project also serves as a medium to deliver information about creativity and the creative thinking skills to the target audience of the Guide Book: parents. One goal of the project is to use the three-part TIM model to assist parents in teaching their children a vital 21st Century skill: creativity. A second objective of the project is to increase the excitement to go to, and motivation to learn about, the cultural and entertainment attractions in the city of Buffalo, New York. The finished product includes ten sample pages of the Guide Book and recommended elements that would need to be included in the completed Guide Book.

Key words: Creativity, Family impact, Thinking skills, Torrance Incubation Model, Creative thinking, Child

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4/14/14

ACKNOWLEDGEMENTS

While it is my name that solely appears on this paper, the efforts of two people stand out as having been behind me with unwavering love, support and encouragement, which made this endeavor possible.

Todd, Edward de Bono and his six hats have nothing on you! Throughout this whole experience you've had to wear many hats – dad, mom, chef du jour, homework helper, housekeeper, launderer, lunch maker, grocery shopper, nurse, chauffer, dog walker, financial advisor, husband, and most importantly, best friend. I could not have done this without you. Your commitment to being a wonderful husband and father and your belief in me have sustained me and allowed me to pursue my work, safe in the knowledge that you were holding down the fort, taking care of our family.

Mom, you've been in my corner from the beginning. You have always believed in me, even when I did not believe in myself. You have always been there to help me when I've needed it and throughout the course of this endeavor was no exception; late night and early morning babysitting, picking up the kids from school, giving Todd his much needed Wednesday night breaks, listening to me vent during our daily morning phone call, and just generally filling in where you were needed, often times without even being asked. Thank you.

DEDICATION

To Caleb and Elias, my two greatest creations!

The two of you inspire me every day with your creativity, imagination and humor. I love that you are each unique, crazy, wonderful, wild, funny, and creative in your own way. Your creative spirits and zest for adventure have provided me with the inspiration for this project. Because of you, hopefully many more children will question the status quo, let their imaginations run wild, and be open to all of the possibilities the world has to offer. I know that you both are going to take the world by storm, and I am so proud to be your mom.

"You were born an original. Don't die a copy." – John Mason

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Section I: Background and Purpose

Background

I was a stay at home mother of two small boys until my youngest son entered kindergarten. During that time, many of my friends had small children at home as well. In an effort to entertain the kids, we would go on daily adventures. Each morning we would set out to enjoy one of the many different attractions that our city has to offer. Living in a tight knit neighborhood with many other stay-at-home mothers, I would frequently see the same families over and over again at the different venues. All the parents with children of a certain age seemed to go to the same places: the zoo, music classes, the children's museum, the art gallery, the playground…etc. I used to jokingly refer to our routine as "workin' the circuit", as even though I strived to vary our activities and venture out to new venues, I was beginning to get bored with the same old same old. It all began to feel very routine; like we were all just going through the motions. I began to question whether the kids were starting to feel the same way and whether they were getting anything out of our adventures other than the opportunity to run around and jump on things that were not in our living room. I assumed that if I was bored, the other parents must be feeling the same way. I watched the other parents closely and I began to recognize the same glazed over look in their eyes that comes, in part, from one too many times of sitting in the hot sun, watching your kids play in the Bone Zone at the zoo. How many more times would we stroll the almost identical path through the zoo, past the sea lions, to the merry-go-round, then off to the snack bar for lunch,

before we rounded the primate area, on our way to the giraffes and Rhinos, making our way to the exit, through the gift shop?

I started to seek out different places to explore with my kids. The city of Buffalo is rich with cultural and entertainment opportunities; there is so much to do and experience. I noticed two things right away: my kids were much more enthusiastic and excited when we set out to explore a new place, and that we were not seeing the same families that we had been accustomed to seeing at our usual haunts. I wondered if the other parents knew about all of the great attractions that our wonderful city had to offer. I also wondered how long it would be before even our new locations lost their luster, and we slipped back into a mundane routine again? That's what got me thinking about how to get my children more involved in the activities that we were doing. I would point out different things, give them the history and interesting facts about the places we went, but something was missing. They enjoyed themselves on our adventures, but once we got home, they seemed to lose all interest. Often times, their dad would ask them where we went that day and their responses were simply one or two word answers. He would ask if they enjoyed it or had fun and they would respond that they had, however they would often times not provide any further details, nor would they mention any of the fun and interesting historical facts I had enlightened them with. Why was I killing myself trying to expose them to the world, trying to enrich their days with fun, cultural, and varied activities if they would be just as content to go to the zoo every day and walk, zombie like, barely acknowledging the animals, through the same route we took almost every Tuesday? Why? Because I am a mother and a teacher and I wanted more for my kids. I wanted them to want to know about all the interesting things our city has to offer. I wanted

them to be excited by the world around them. I wanted them to be inspired by our daily adventures even after we got home. But how?

Through my studies in creativity, my experiences as a mother, and my career as a special education teacher, I have learned many things that have guided my thinking and have led me to this project, where I hope to answer that question.

Purpose

The purpose of this project is to create an interactive guidebook to the city of Buffalo to help parents foster creative thinking skills within their children. The inspiration and development of this project came as an answer to two questions that I had:

1) What might be all of the ways to have fun with my kids in Western New York?

2) How might I help my children develop their creativity and creative thinking skills, so that it would heighten and enrich their experiences of the world around them?

The development of the book would serve as a creative answer to both of my questions!

In this project, I used a framework for the guidebook that was developed by E. Paul Torrance, called the Torrance Incubation Model of Teaching and Learning (Torrance & Safter, 1990). Torrance developed his model to "make teaching more effective in any subject, at any age level with any method of instruction" (Torrance & Safter, 1990 p. 4). Using the Torrance Incubation Model (TIM), I have specifically created activities that parents can do with their children before and after visiting different cultural and entertainment activities in Western New York. The activities are meant to enrich the experience of the family outing

and heighten the engagement of the children, while at the same time, developing the child's creativity and creative thinking skills.

Section II: Pertinent Literature

Introduction

Throughout my studies and experiences in this graduate program, I have read many interesting books and articles that have helped shaped my understanding of the power of creativity to enrich my life and transform my thinking. My research for this project was a synthesis and expansion upon that knowledge. I focused on looking at why there is a growing need for creativity and creative thinking skills in the workforce, what creativity is, what the schools are doing, and what parents can do to help their children. I also researched the Torrance Incubation Model, as it was the framework that I used in creating the guidebook.

Moving Into the 21st Century

As a parent and a teacher, I believe that nurturing and developing our children's creative thinking skills to be more important now than ever before. We are living in a world where advances in technology are rapidly changing the way we live and work. What has worked in the past will no longer work in the future. The world is no longer primarily made up of small local communities. All economies around the world now are interconnected and dependent on one another due to globalization and the advances in technology. The jobs that required only minimal education and basic skills have been lost to developing countries who have pools of workers willing to work for much less compensation than what workers in more developed countries have traditionally been paid. The jobs of the current marketplace

require workers to be able to collaborate and communicate within a globally diverse workforce.

Author Richard Florida proclaims the death of the "Industrial Age" and the birth of the "Creative Age" in his book, *The Rise of the Creative Class* (2004, p.123). He presents clear data that shows the decline of the "working class" job sector; people in production operations, transportation, materials moving, repair, maintenance, and construction jobs. This sector traditionally comprised the single largest sector in the workforce, with its peak at 40% of the workforce in 1920 to its decline of only 26% of the workforce in 1999. In contrast, jobs in the creative sector, people who work in science and engineering, computers, mathematics, education, the arts, design, entertainment, have dramatically risen from 16% of the total workforce in 1920 to 43% of the workforce in 1999 (Florida, 2004, p.73-75).

According to a report issued by the US Department of Labor (2013), the use of technology in the workplace will become even more pervasive and the range and scope of the work that will be performed will dramatically increase, thus requiring work and skills to be redefined. The head of the Programme for International Student Assessment (PISA), Andreas Schleicher, predicted that "schools (need) to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don't know will arise" (Schleicher, 2010).

If we do not know what types of jobs or problems will arise in the future, how can we prepare our children to be future workers in the new global economy? How can we prepare for the repercussions of what our energy consumption will have on the global environment?

Or what the effect of an ever-increasing population will have on our health care and housing systems or our food supply? We need to get creative.

The National Education Foundation recognizes and promotes the teaching of the Four C's: critical thinking, communication, collaboration, and creativity, as vital 21st century skills; needed to prepare students for the global workforce. In the book, *A Whole New Mind: Why Right-Brainers Will Rule the Future*, author Daniel Pink expounds on the Four C's and explains that workers in the future will require a new set of what he calls "high concept" and "high touch" aptitudes.

> *High concept* involves the capacity to detect patterns and opportunities, to create artistic and emotional beauty, to craft a satisfying narrative, and to combine seemingly unrelated ideas into something new. *High touch* involves the ability to empathize with others, to understand the subtleties of human interaction, to find joy in one's self, and to elicit it in others, and to stretch beyond the quotidian in pursuit of purpose and meaning (p.2).

Creative individuals are "boundary-hoppers and are able to see relationships between different things," (Csikszentmihalyi, as cited in Pink, 2005). Students who are flexible in thought, fluent in idea production, original in their ideas and able to elaborate on current ideas will be better prepared to tackle new initiatives of the future, not condemned to simply repeat what has been done in the past. In addition, Research has shown that students who are immersed in creative learning environments feel a better sense of personal success, increases in student achievement, (Schacter, Thum, & Zifkin, 2006), and produce higher quality work

than students in more traditional educational environments, (Whitebread, Coltman, Jameson, & Lander, 2009).

In *Creativity Rising* (2012), the authors, Puccio, Mance, Switalski, and Reali, highlight four of the creativity and innovation skills that the Partnership for 21st Century Skills (P21), a coalition of the U.S. Department of Education and various business organizations have identified as key skills for success in the 21st century. The four skills that were looked at specifically in *Creativity Rising* are:

1.) Learning and Innovation Skills – in order to think and come up with new ideas, ask questions, and analyze information.
2.) Critical Thinking and Problem Solving – to solve problems where not all of the information is available, or the solution is not known, being able to think critically and apply that thought to formulate a solution.
3.) Creativity and Innovation – in the coming era of rapid change and globalization this is needed to think creatively, collaborate with others and make creative change in response the changing environment of the 21st century.
4.) Flexibility and Adaptability – being able to see things from different point of view or through a different lens, being flexible in ones views or thoughts along with adapting to new environments, changing priorities and ambiguous situations will allow for the balancing of diverse views in order to reach workable and creative solutions (2012, p. 22 & 23).

The author further points out that all of these skills are process skills and that creativity skills are used in many contexts across all professions. They contend, and I concur, that while some

knowledge becomes obsolete, the 21st century skills, such as learning, innovation, creativity, flexibility, adaptability, critical thinking and problem solving are skills that are not only timeless, they are skills that will allow us to thrive in the future.

As a teacher, every day I see students who are adept with learning skills and demonstrating that learning in isolation. They struggle to apply and adapt their knowledge and skills in problem solving situations; they have difficulty with critical thinking. The next logical step in my research was looking at creativity, as all of the skills that have been identified as 21st century skills fall within creativity, and would be extremely helpful to today's learners.

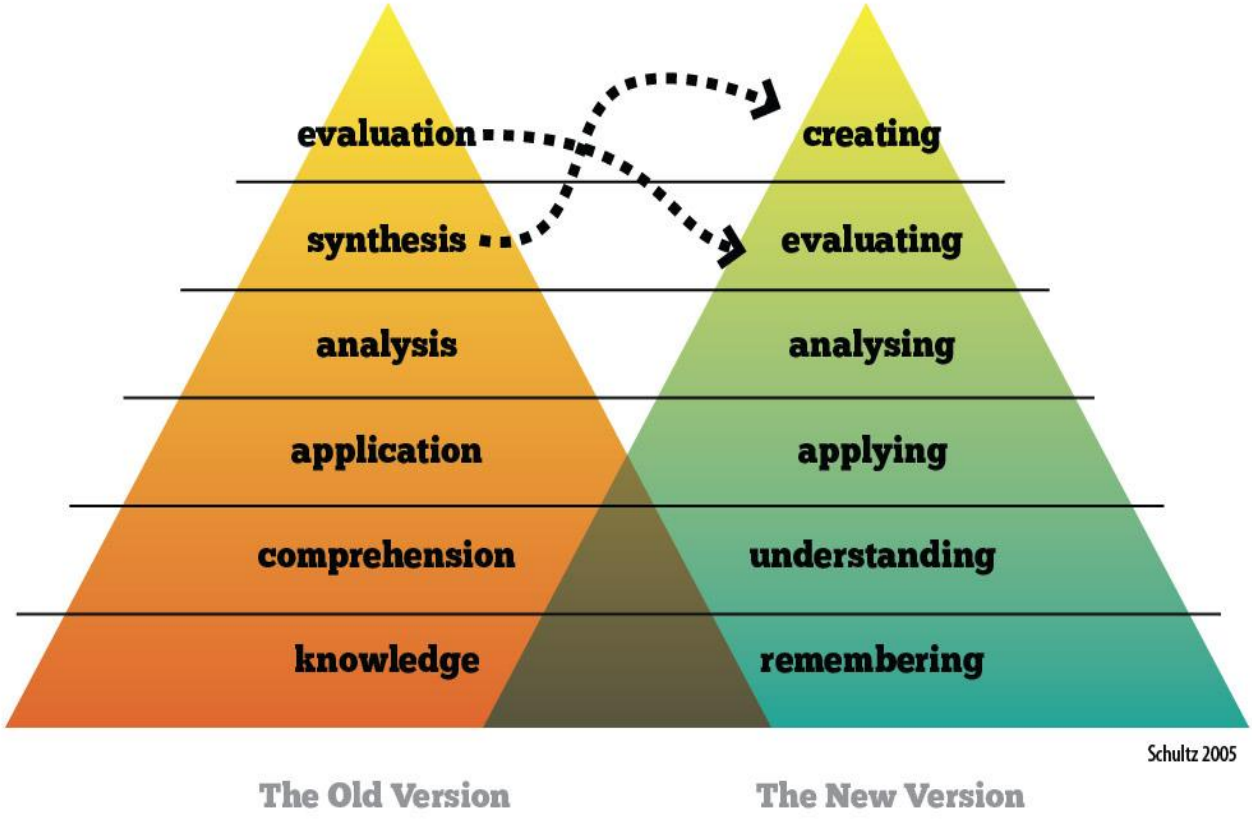
Creativity – What is it?

Through my graduate work, in Creative Studies at Buffalo State, my ideas of what creativity was and where and when it was used have been completely transformed. I, like most people, had assumed that creativity was something that you were born with. If pressed, I would have disagreed with anyone who told me that creativity could be taught and that it was a skill that was highly valuable in all professions, not just those within the artistic or cultural realms. I was pretty confident in my own creative talents; as a mother, a special education teacher, cake baker extraordinaire, and transformer of garage sale and found objects, I considered myself very creative. While my assessment of my own creativity may be true, I found out that what I thought about creativity in general, what it was, who had it, where it was used, whether or not it could be taught, was very far off from what it actually is.

President Barack Obama (2009) called for our nation's governors to recognize that students need to have "21st century skills like problem-solving and critical thinking and

entrepreneurship and *creativity*." Bloom's taxonomy, a hierarchical structure representing six levels of thinking and learning skills, was revised in 2001 and the new version places "creating" as the highest cognitive skill (Anderson & Krathwohl2001). (See Figure 1.)

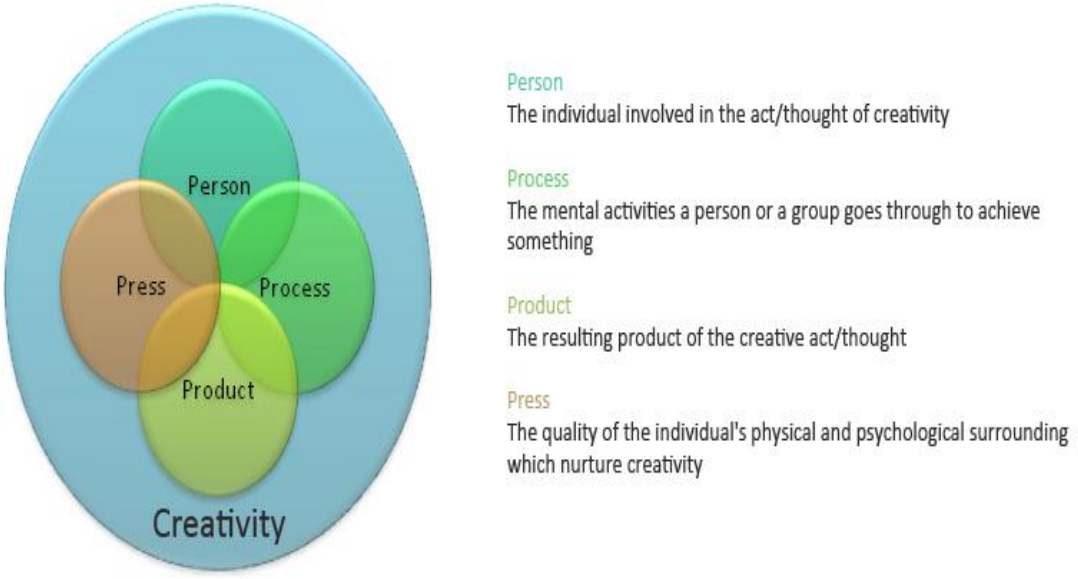
Figure 1.



Creativity has emerged as a crucial skill that one must possess in order to achieve success in the future globalized world, but what is creativity? If you were to ask ten people to define creativity, you would most likely end up with ten different definitions. The reason being is that creativity is difficult to define, as there is no one accepted definition of it. The

same word, creativity or creative, is used to describe different things. In an article entitled, *An Analysis of Creativity*, published in Phi Beta Kappen, (Rhodes, 1961) a professional magazine for educators, Rhodes defined creativity through what is now known as the four Ps; the Person, the Product, the Process and the Press, or the environment. (see Figure 2.)

Figure 2.



(Troxler, 2011)

The four Ps cover everything from self-concepts, intelligence, perception, motivation, and communication; to value systems, design, processes, personality, and the environment that surrounds us. It's no wonder there is no universal definition! Within the field of creativity, the most widely used definition of creativity is *something that is novel and useful*.

The question arises of whether creativity is something that can be taught. Before my studies, I had assumed that creativity was something that you were born with, and that people had varying degrees of creativity. In his book, *Is Creativity Teachable?* (1973), authors

Torrance & Torrance acknowledge that creativity involves a number of different thinking skills for the creative process to be successful, and that they can be taught.

> …the skills of becoming aware of problems and gaps in information, defining these problems and gaps, retrieving and combining information from previous experiences and accumulated knowledge, producing possible alternative solutions, developing criteria to evaluate these solutions, testing the most promising solutions, deciding upon the best solution, and working out plans and details for implementing the solution…All skills require practice and can be enhanced by teaching (p.7).

In their paper, *The Effectiveness of Creativity Training: A Quantitative Review* (2004), researchers Scott, Leritz & Mumford's findings agree with what Torrance & Torrance concluded. They conducted a quantitative meta-analysis of 70 prior studies of creativity training and the development of creative capacities on individuals. They found that creativity training proved to be successful in improving divergent thinking, problem solving, and performance. It was effective for all ages, high achievers and the average person. "Taken as a whole, these observations lead to a relatively unambiguous conclusion. Creativity training works" (p. 382).

At this point in my research, I determined it was necessary to look at what was taking place in education. If creativity is a vital 21st Century skill, needed by today's learners to work and achieve in the future, and if creativity can be taught, then I wanted to look at what was going on in education that would support students learning these skills.

Beyond Reading, Writing and Arithmetic

Ask ten people what the word "education" means, and most people will respond that it has something to do with school, or learning. "Education" is a bit easier to define than the "creativity"; Webster's Dictionary defines education as "the act or process of imparting or acquiring general knowledge and of developing the powers of reasoning and judgment" (p.425). What is not so easy to agree upon is the purpose or goal of education. Like defining creativity, there are many views as to what the purpose of education is. The role of education effects students on individual, economic and cultural levels. Influences in society, such as the fluctuation of the economy, advances in technology, population growth, globalization of the workforce, immigration and poverty all play a part in changing and shaping the goals of public education (Jones, 2012).

In his book, *World Class Learners: Educating Creative and Entrepreneurial Students* Zhao (2013) explains how in the past, education was designed to sort students into roles. With the rise of the industrial age, there grew a need to be able to differentiate between students who were going to go on to be the workers in society; digging ditches and manning the assembly lines, and those who would be managers of the workforce (Merrow, 2002). Before the current wave of globalization, most people undertook jobs in their local economies that required very similar, basic skills. Only a small percentage of workers had jobs that required higher cognitive skills. The local economies were mostly insular and change happed very slowly, so it was easy to predict what skills were needed in the marketplace, and therefore design school curriculum to meet those needs. This one-curriculum-fits-all model has been the dominant paradigm that schools have been operating under since the early 1900s. Public education has been about producing employees for the

market place that have similar skills, and similar values, thereby "reducing human diversity into skillful workers through prescribed content and experiences in the form of curriculum" (p. 42).

Currently, educational psychologists such as J. P. Guilford and Lev Vygotsky both support the development of creative potential as an educational goal (Beghetto, 2010). Vygotsky stated "the entire future of humanity will be obtained through the creative imagination." In his presidential address to the American Psychological Association, Guilford highlighted the need to encourage creative thinking in the schools. In 2002, the USA Secretary of Education stated the need for students to be "imaginative, flexible and tough-minded", in order to succeed.

The problems we face now are that schools are reducing or undermining creativity instead of encouraging or developing it (Robinson, 2001). Researcher George Land did a longitudinal study of creativity ability in children and found that as children age their creative ability decreases (Land & Jarman, 1992). Using divergent thinking tests developed by NASA, Land conducted a longitudinal study of 1,600 three- to five-year old children. When Land tested the three to five year old group, he was surprised to see that 98% of them scored in the creative genius level. He re-tested the same group five years later and found that only 32% of the children tested at that same level. Five years later, only 10% of the children tested at the creative genius level. Land's findings are supported by Educational Psychologist Howard Gardner and Tony Wagner, Innovation Education Fellow at the Technology & Entrepreneurship Center at Harvard, both of whom have noted that children become less creative the more time they spend in school (Gardner, 1982, Wagner, 2008).

Psychologist and international advocate for education and creativity, Sir Ken Robinson has called upon the world to rethink the way we are educating our children. He believes that we need to recognize multiple types of intelligences and cultivate creativity and the creative thinking skills in our children (Robinson, 2006). In his book, *Out of Our Minds: Learning to be Creative*, (2001) he argues for the need for schools to recognize and teach to the different types of intelligences. He believes that the current criteria for determining intellectual abilities and intelligence, overlook vital, and perhaps the most important intellectual abilities that children possess (p.3).

It seems that in some very small ways, the educational world may be starting to make changes in response to the growing call for change. With the adoption of the Common Core State Standards in June of 2010, creativity and the creative thinking skills are formally and explicitly inching their way into the classroom. The standards were created to provide a consistent understanding of what students should be learning in the classroom in order to prepare them for career success in the future global economy.

Within the individual standards, over and over again, the skills that students are expected to master directly relate to creativity and creative thinking skills. For example, in the Common Core Speaking and Listening standards (SL) the objectives clearly call for the students to demonstrate various creative behaviors.

> SL.9-10.1 Initiate and participate effectively in a range of *collaborative discussions* with diverse partners on grades 9–10 topics, texts, and issues, *building on others' ideas* and expressing their own clearly and persuasively.

SL6.2.a We can use our experience and knowledge of language and logic, as well as culture, to *think analytically* and *address problems creatively*.

SL12.1.c We can promote *divergent and creative perspectives*.

SL12.2 We can *integrate* multiple sources of information presented in diverse formats and media in order to *make informed decisions, solve problems, and overcome challenge.* (Common Core State Standards Initiative, 2012)

The concern is that the explicit skills are not mentioned in the learning standards in the early elementary years, they start being mentioned in the middle school years. While it is to be commended that creativity and the creative thinking skills have been included in the new educational standards, waiting to focus on them until the middle school years, may be too late.

Creativity and the creative thinking skills are hailed as 21st century skills. Schools are not teaching to encourage these skills, rather the current instructional practices are undermining creative development. So where are children going to acquire the necessary skills that will assist them in honing and developing their creative abilities? My next area of research looks into what parents, particularly parents of pre-school aged children, can do to foster their children's creative abilities.

Play Better, Play Creatively

In her book, *Growing up Creative: Nurturing a Lifetime of Creativity* (2007), Dr. Theresa Amabile looks at the educational environment as well as the home for factors that encourage and discourage creativity. Dr. Amabile offers many examples of creative

behavior, in order to assist parents in being able to recognize their child's creative talents. Examples of creative behavior can be seen in a variety of areas such as singing, drawing, building, word play, cooking, sculpture, numbers, games, social relationships, machines, information , and writing, to name a few. Behaviors such as inventing their own melodies, experimenting with different types of building structures, combing colors in new ways for an art project, inventing new games with elaborate rules, creating secret codes and languages, expressing ideas using metaphor and similes, are all examples of creative behaviors (pp. 30-31). No matter what the task or activity may be, Dr. Amabile emphasizes the importance of intrinsic motivation for creativity:

> If parents and teachers can understand and apply the *Intrinsic Motivation Principle of Creativity*, they will have an enormous start in fostering children's creativity. *People will be most creative when they feel motivated primarily by the interest, enjoyment, challenge, and satisfaction of the work itself…and not by external pressures.* (Amabile, 1989 p. 54)

Unfortunately, it is precisely this type of motivation that is being squelched in today's educational environment. Our schools are stifling our students from developing individual differences, creative thinking, or from realizing their individual talents. Schools are not deliberately setting out to suppress children's creativity; rather they fail to recognize and to encourage creative behaviors (Runco, 2003).

It is up to parents to provide a balance; provide a home life that nurtures and supports creativity and stimulates a child's imagination and curiosity. Parents need to be able to recognize creative behaviors in order to encourage them. Creative children are attracted to

the mysterious. They have a high tolerance for ambiguity, they enjoy and accept disorder, they are risk takers, have high energy, and are quite playful, often cognitively playing with ideas and concepts. They can also be emotionally sensitive, tenacious in an argument and quick to find fault in others (Proctor & Burnett, 2004).

Providing the right atmosphere within the home can encourage creative behaviors (Amabile, 2007). Parents should:

- Encourage fantasy and imaginative play
- Allow children to make mistakes, so that they can learn from them.
- Avoid sexual stereotype, as gender stereotypes destroy creativity (Md-Yunus, 2007).
- Allow kids to explore their wild ideas, and experiment with different concepts. Do not be too quick to tell them their ideas are wrong or won't work.

Encouraging creative thinking can be as easy as being mindful to ask open ended questions, rather than asking questions that have a "yes" or "no" answer or a single right answer. Asking a child "Do you like apples?" does not allow much room for thought or discussion, as opposed to "What might be all the yummy things we can make out of apples?", or "Tell me what you like about apples."

Taking children on family outings can also be an opportunity to encourage creative behaviors and thinking. By weaving creative thinking skills into activities that parents may already be doing with their child, the parent is able to teach the creative skill along with the activity, increasing enjoyment and engagement of the original activity (Murdock & Keller-Mathers, 2008). This can be done with the use of the Torrance Incubation Model.

The Torrance Incubation Model

In their book, *The Incubation Model of Teaching: Getting Beyond the Aha!*, Torrance and Safter challenge teachers to become great teachers by using the Torrance Incubation Model (TIM). The TIM is a model developed to "make teaching more effective in any subject, at any age level with any method of instruction" (1990 p. 4), quite a lofty goal! This model is based on Torrance's theory that creative behavior, therefore learning, occurs at an intersection of an individual's creative skills, their motivation and their creative abilities (Torrance & Safter, 1999). He believed that people, when given a choice, would choose to learn creatively; that it is a natural human need.

> People are inquisitive, exploring, searching kinds of beings. They are self-acting and cannot keep their restless minds inactive even when there are no problems pressing for solution. They continue to find problems and cannot keep from digging into things, turning ideas over in their minds, trying out new combinations, searching for new relationships, and struggling for new insights – ahas and hahas. This comes from people's cognitive needs – their wanting to know and encounter things more deeply. People's esthetic needs – their needs for beauty, balanced relationships, graceful and certain movements – are almost relentless. Cognitive and esthetic needs are served by creative ways of learning which develop the motivations and skills for continued learning. (Torrance, 1994, p. 221)

Torrance also believed that creative thinking skills could be, and should be, taught and practiced. "Any skill must be practiced to be developed and perfected, and this applies to thinking skills as well. Thinking is a skill just like playing tennis, driving and automobile,

playing the piano, dancing or bricklaying," (Torrance & Safter, 1990, p.7). He developed a list of creative thinking skills by looking at different individuals throughout history that had demonstrated high creative achievements. He looked at their behaviors and achievements, and compared them with modern day creative individuals, and with the test responses of children who grew up to make highly creative achievements. By using statistical analysis, he was able to identify certain skills that were common among the groups, (Torrance & Safter, 1990, p. 23). *In Making the Creative Leap Beyond,* the skills identified are:

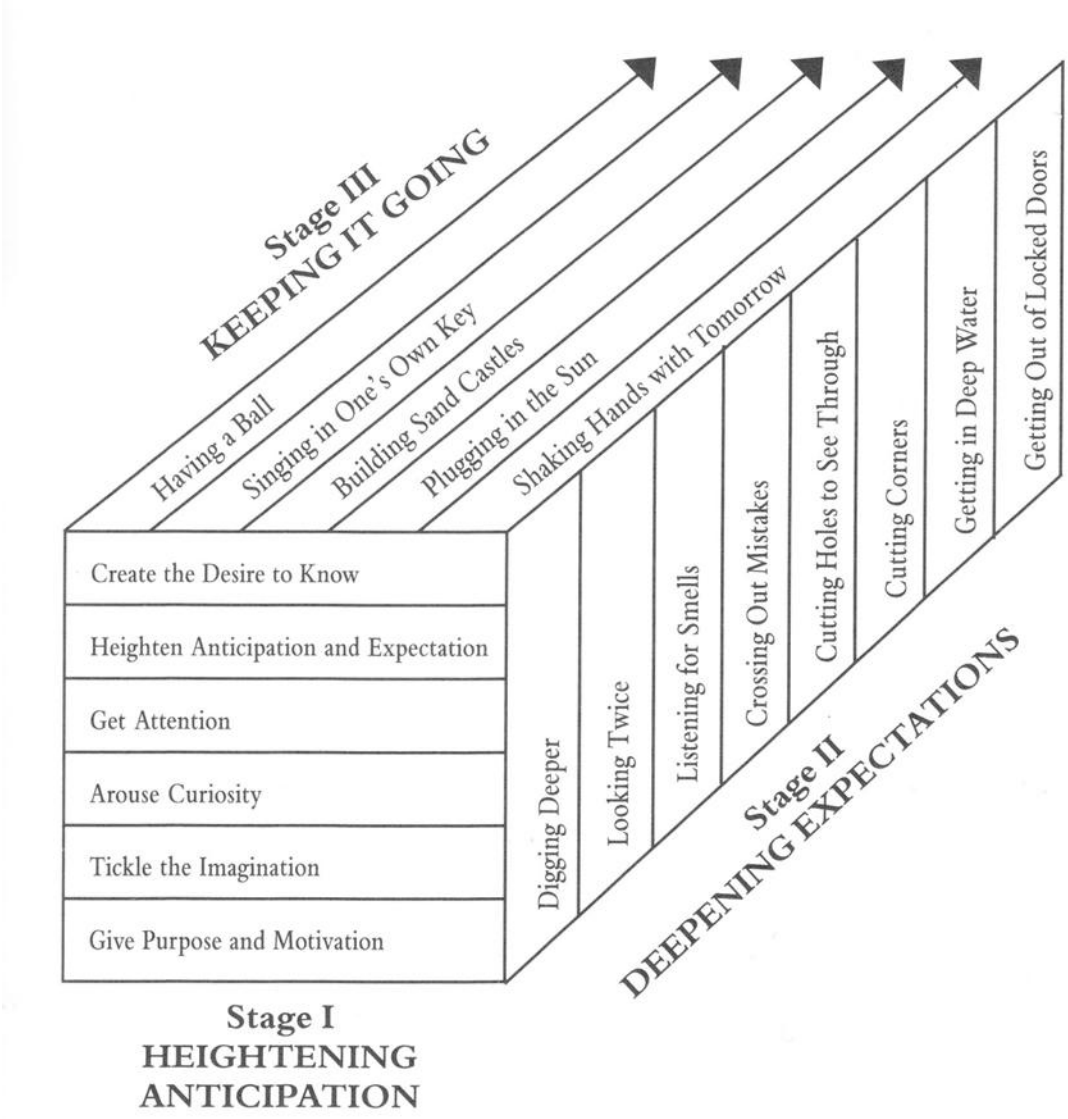
- **Finding the Problem** – recognition or awareness of a situation; definition of the problem and commitment to deal with it; recognizing the essence of the difficulty and identifying sub-problems that are manageable or can be solved.
- **Produce and Consider Many Alternatives** – fluency; amount; generating many and varied ideas.
- **Be Flexible** – creating variety in content; producing many different categories; changing one's mental set to doing something differently; perceiving a problem from different perspectives.
- **Be Original** – moving away from the obvious; breaking away from habit-bound thinking; statistically infrequent responses; the ability to create novel, different, or unusual perspectives.
- **Highlight the Essence** – identifying what is most important and absolutely essential; discarding erroneous or irrelevant information; refining ideas, abandoning unpromising information; allowing a single problem or idea to become prominent and synthesizing all of this at the same time.

- **Elaborate, But Not Excessively** – adding details or ideas - developing them; filling in details for possible implementation.
- **Keep Open** – avoiding premature closure; resisting the tension to complete things in the easiest possible way.
- **Be Aware of Emotions** – recognizing verbal and non-verbal cues; responding, trusting, and using feelings to better understand people and situations.
- **Put Ideas Into Context** – putting parts of an experience into a bigger framework; putting experiences together in a meaningful way; making connections between things; giving situations and ideas a history, and background, a story.
- **Combine and Synthesize** – making new connections with the elements within our perceptual set; combining relatively unrelated elements; hitchhiking; making the familiar strange and the strange familiar.
- **Visualize Richly and Colorfully** – using vivid, exciting imagery; creating colorful and exciting images that appeal to all five senses.
- **Enjoy and Use Fantasy** – image, play and consider things that are not concrete or do not yet exist.
- **Make It Swing, Make It Ring** – using kinesthetic and auditory senses; responding to sound and movement.
- **Look At It Another Way** – being able to see things from a different visual perspective; being able to see things from a different psychological mindset or perspective.

- **Visualize The Inside** – paying attention to the internal dynamic workings of things; picturing or describing the inside of things.
- **Breakthrough: Extend the Boundaries** – thinking outside the prescribed requirements; changing the paradigm within which the problem resides.
- **Let the Humor Flow and Use It** – perceiving incongruity; responding to a surprise; recognizing and responding to perceptual and conceptual discrepancies.
- **Get Glimpses of the Future** - predict, imagine and explore things that do not yet exist; wonder and dream about possibilities; view events as open-ended. (p. 6)

Torrance's model has three parts or stages; Stage I: Heightening the Anticipation, Stage II: Deepening Expectations, and Stage III: Extending the Learning. (See Figure 3)

Figure # 3



(Torrance & Safter, 1999)

Stage I: Heightening Expectations

In this first stage, what could also be called the “warm-up” or the “hook”, the teacher’s or the facilitator’s role is to get the learner excited about learning. This is where the learner will make personal connections to the subject matter of what is being taught. The goals for the teacher/facilitator in this stage is to

- Create the Desire to Know
- Heighten Anticipation
- Get Attention
- Arouse Curiosity
- Tickle the Imagination
- Give Purpose and Motivation (Torrance & Safter, 1990).

Stage II: Deepening Expectations

In this stage the intrinsic motivation to learn that was developed in stage one is sustained by a variety of cognitive and emotional experiences. The purpose of which is to further engage the learner with the content; allowing the learner to discover and explore the topic more intensively. This is where the learner will take ownership of the topic and bring personal meaning to it (Nitkowski, 2004, Standish-Wallace, 2004). The problem is defined and action is taken. The learner is encouraged to look beyond the surface of the problem and to "dig deeper" to discover things that might otherwise have been missed in order to develop solutions that can be applied.

In Stage II Torrance uses metaphors to describe the way the learner is to process the content being taught:

- **Digging Deeper** – diagnosing difficulties and integrating known and unknown information; elaboration and divergent thinking are also at play.
- **Looking Twice** – evaluating and re-evaluating information.
- **Listening for Smells** – use of any and all senses.
- **Crossing Out Mistakes/Listening /Talking to a Cat** – making guesses and checking them; correcting, modifying; making the best solutions better.
- **Cutting Holes to See Through** – Summarizing, getting to the essence, discarding what is not useful.
- **Cutting Corners** – avoiding useless information and making mental leaps to new insights.
- **Getting into Deep Water** – being overwhelmed by complexity; searching for unanswered questions, including taboo topics; becoming deeply absorbed
- **Getting Out of Locked Doors** – Solving the unsolvable; opening up to new possibilities; going beyond more and better of the same (Torrance & Safter, 1990, Nitkowski, 2004)

Learners may use one or many of the above processes to uncover new ideas make new connections and explore unexpected opportunities. It is important to remember that the learning within this stage is not meant to start and then progress through a set of objectives to an endpoint but rather start and then follow the lead of where the experience will take you. The learning may be experienced differently by individual learners, depending upon their motivation and personal experiences.

Stage III: Extending the Learning

The purpose of Stage III is to focus on additional creative strategies to further engage the learner, so that their engagement and motivation carries through and they are encouraged to continue their study. "The bulk of the instruction is a means to sparking incubation by setting up learning experiences that lay the foundation for intrinsically-inspired further exploration" (Nitkowski, 2003, p.1). Again, Torrance uses metaphors to characterize the way the learner processes the information:

- **Having a Ball** – having fun, using humor; being playful
- **Singing in One's Own Key** – making connections, personalizing the information; using one's schema to relate to the content.
- **Building Sandcastles** – using the imagination and fantasy; looking for ideals.
- **Plugging In the Sun** – identifying and using all available resources; working hard.
- **Shake Hands With Tomorrow** – relating to a future vision. (Torrance & Safter, 1990)

The main objective of using the TIM model is to deliver both content/topic knowledge and skills and creativity knowledge and skills and to have the learner focused on the activities intense enough to sustain engagement after the formal lesson has finished. That is why I chose TIM to use as the framework for my guidebook for parents. As a parent, I feel that my role in my children's learning is very important. Parents are their children's first teachers — reading together, exploring nature, cooking together, creating art…and the list goes on. I believe that a parent's job is to foster the love of learning, experimenting and creating, guided by their child's interests and talents.

The impetus behind this project was the desire to make learning part of my children's everyday experience. I wanted to teach them that they could take charge of their learning, by fostering the intrinsic motivation to follow their desires, to challenge the status quo with questions and their own interpretations of the world around them. By teaching children that learning can be fun and engaging is a gift that a parent bestows to their children, so with that in mind, I have created the guidebook for my children, and hope to make it available for all parents to be able to give the gift of learning and creativity to their children.

Section III – The Process

Introduction

This section documents the steps and the processes that I used to develop activities and lessons for the guidebook. I will discuss which of the TIM creativity skills were selected for each of the activities and why they were chosen. Since this is the first time that I have taken on the dubious task of writing a book, and knowing the limits of my own talents and skills, I have sought out the advice and assistance of different "experts" and have enlisted their help with this endeavor, the details of which will also be provided in this section.

Getting By With a Little Help From My Friends

Through my coursework in preparation for my Master's degree at the International Center for Studies in Creativity (ICSC), I was fortunate enough to have taken the FourSight Thinking Style Assessment. It is a tool that allows you to evaluate your thinking style in order to assist you in recognizing your talents along with areas that need improvement. I discovered that I had an extremely high preference for ideation, which is someone who

> Likes to generate broad concepts and ideas. Tends to think in abstract and global ways. Is more comfortable understanding the big picture. Visionary. Enjoys stretching the imagination. Constantly toying with ideas. Drawn to broad issues. Less concerned with the details. Able to generate many ideas. A flexible thinker. Sees many possible solutions. May leapfrog from one idea to the next, not following through on ideas (www.foursightonline.com).

That being said, the assessment also showed that my weakest preference was in implementing my ideas. I prefer to think up great ideas, but need a nudge (sometimes a good, hard push) to actually move from the "thinking" stage into the "doing" stage. Well the time constraints placed upon me to get the project done and my underlying passion to see the project come to fruition did a lot to motivate me and to sustain that motivation throughout the course of this project. Knowing that was my area of weakness, I reached out to friends and family whom I knew to be strong in "getting the job done" and asked for help with setting up deadlines, scheduling my children's activities, carpooling, and babysitting, and with supplying much needed encouragement and feedback along the way. This helped keep me on track immensely. The value of knowing your strengths and limitations before undergoing a project such as this is immeasurable.

One of the very first things I did before doing anything else, was to investigate what other people had done along the same lines. I would have hated to invest all of the time, energy and passion into a project that was just a replication of something that was already available. I started my search at my local bookstore, *Talking Leaves*. Talking Leaves is in the heart of the Elmwood Village, and in the heart of where a lot of my target audience for the completed Guide Book lives, works and shops. I scoured their jam-packed shelves for books written about exploring Buffalo, New York. I did find a few, but they were very specialized – guides to Buffalo's architecture, running & jogging paths, Erie Canal history, and to the region in general. Setting the creative thinking skills aspect aside, I was not able to even find one book was written for my target audience: parents and their children. Since this was a small community bookstore, I decided to head out to a big suburban big-box national retailer. Surely they would have *something* there.

Next stop – *Barnes and Noble*. At this major retailer, I began my search in the travel section, where they have a section on Buffalo, New York. Again, I found the same hobby-specific books, regional trip planners, and a few books highlighting area attractions, nightlife and restaurants. I then searched in the section for educators, with a though on looking for a book that would have activities that taught the various thinking skills, outlined in the TIM model (Torrance & Safter, 1990) – again, I was unable to find any books on the subject. I then moved into the children's book sections and looked for activity books, books on creativity, thinking or the like. What I found was either coloring/sticker activity books, or books that relegated creativity to the arts and crafts domain. Still determined, I figured the next best place was to search the internet.

I searched barnsandnoble.com, amazon.com and Google, as well as conducted a search of the books available at the E. H. Butler library at Buffalo State, I concluded that while I did find a few books that had the types of activities I was looking for, there was nothing at all available that combined fieldtrips to cultural and entertainment venues in Buffalo, New York (or anywhere else for that matter) with activities that promoted the learning of creative thinking skills. I was a little surprised, but delighted in the fact that I had come up with a novel and useful idea. The very definition of creativity itself.

My next task was to learn all about the Torrance Incubation Model; how it worked – the three stages and the thinking skills. While I had been introduced to TIM in my coursework at the ICSC, and had sought to incorporate the three part model into my elementary teaching, I felt I really needed to make sure I had a solid understanding of it since my whole project was going to be based upon it.

I read several books by Torrance including The *Incubation Model of Teaching: Getting beyond the Aha!*, and felt that I had a solid understanding of what Torrance thought about creativity and how he devised his three-part model. I felt that I had a firm understanding of what each part of the model was about and I understood the creative thinking skills; what they were and how they differed from each other. I was ready to get to work.

I thought that this part of the project was going to be very easy. I am an elementary teacher by day, and am used to writing lessons daily. Easy. Not so Easy. I had so many ideas, for activities related to different places in my fair city. Ideas for the zoo could take up several pages alone. Ideas for activities for the Science Museum – another several pages! The

historical society, the art galleries, the Erie Canal site, Buffalo's waterfront, parks, and natural wonders….I had a LOT of ideas. I was having a tough time narrowing them down and focusing. My enthusiasm for the project and idea generation was overwhelming me. I reached out to a former classmate, who I knew had a high preference for developing; a thinking style identified by the FourSight assessment that I had a low preference for, and requested her help. Developers "Enjoy transforming a rough idea into a finely crafted solution. (They) like to think in advance of the steps necessary to implement an idea" (www.foursightonline.com);precisely what I needed.

I met with my friend, and she helped me sort through all of my options and develop a plan. We sat and talked about the project and as I was rattling off all of my ideas for various activities and how I would incorporate the thinking skills from the TIM model into the activities, she noticed suggested that in order to help me narrow down my options for the sake of this project, I should instead focus on the destinations in Buffalo that I would focus on for the project and from there I could narrow down the activities. That simple suggestion allowed me to stop my divergent thinking and allowed me to start converging on what I already had. I selected five locations to focus on. I wanted to make sure that I had a diverse sample of locations and activities for my project, so I chose to focus on the Buffalo and Erie County Botanical Gardens, Albright-Knox Art Gallery, Tifft Nature Preserve, The Buffalo Zoo and Buffalo's free outdoor concert venues. Once I had the locations that I wanted to focus on, we used a CPS tool that we learned through our coursework at the ICSC, called Evaluation Matrix to help me converge on the multiple activities that I had devised for each location, in order to select the ones to include in this project. For each location we did a

ranked the activities, based on the criteria I was looking for. Criteria used to rank the activities:

a) activity had to appeal to both children and adults
b) ease of incorporating thinking skill into the activity
c) activity was unique and fun
d) did not require lengthy prep work or materials

The matrix clearly showed how well each of the activities I had developed met the criteria I was looking for. I found this to be very helpful in assisting me with narrowing down my selections. It forced me to stop my divergent thinking and focus on what I had and how well it matched what I was looking for.

We did this for each activity and when we were complete I had clear choices of activities for each location. While no activity I had developed met all of the criteria I was looking for 100%, I was able to select the two for each location that met the most and then develop each of the activities to meet all of my expectations.

I now had the locations selected to focus on and two activities for each location that met all of my established criteria. It was now time to focus on the thinking skills. The most logical place to start was to look at the thinking skills and see which ones would pair most naturally with each location. For the activities for Buffalo's outdoor concerts, it was a natural fit to choose "Make it Swing, Make it Ring", which involves using both kinesthetic and auditory senses to respond to movement and sound. For the activities involving a trip to the Albright-Knox Art Gallery, I choose to focus on "Highlight the Essence", which calls for identifying the essential elements, and "Be Original", which is creating something that is

different or unusual and breaks away from habit-bound thinking. For the activities for going to Tifft Nature Preserve, I selected "Look at it Another Way" which is where you look at something from a different visual perspective. For the activities intended for the Buffalo and Erie County Botanical Museum, I chose "Visualize the Inside", where one pays attention to the internal workings of things, or is asked to picture or describe the inside of things. And finally, for the Buffalo Zoo, I selected the thinking skill of "Visualize Richly and Colorfully", where one uses vivid, exciting imagery to create colorful and exciting images.

I worked on each of the ten activities to make sure that they incorporated the thinking skills I had selected for each location. I found that some activities had to be re-vamped and others had to be scratched all together, as incorporating the thinking skill either didn't make sense with that particular activity or one of the two activities that were meant to pair with a particular location didn't feel like a good fit. It was harder than I thought it would be to create fun, meaningful activities pair with a specific location and thinking skill, and make all of it feel like it flowed from the first activity, to the "fieldtrip" to the location, and then to the second activity. I worked very hard until I had developed what I now think of as five sets of location based activities that are paired with thinking skills as per the TIM. I was happy with what I had come up with, however, I felt like I was missing something. TIM was a three-part model: first you heighten the anticipation, then you deepen the learning, then you extend the learning. While I had the first and the third part covered, with the intention of the second part of the model, deepening the learning, being going to the selected destination in Buffalo, I was wondering if just simply going to the location was enough. Did I need more? I decided that I did, and set out to figure out how to incorporate the thinking skill into the actual "fieldtrip" to the selected destination.

I went back to each activity and I used a creativity thinking skill to help me with this task. I looked at each activity and highlighted the essence of what each task/activity was asking the child to do. What was the thing I wanted them to learn or take away from the activities and the fieldtrip? From there I thought about what questions I would ask to gage their understanding of the "take-away" and how I would assess they got the point of the whole endeavor. From the questions, I came up with a few simple questions and activities that parents could pose while at the destination to encourage the child to think about the activity they did previously; to help them relate that activity and what they learned or discovered through that activity to what they are experiencing at the location. I came up with two "While you are there…" suggestions for each of my chosen locations.

Satisfied with the sample pages for my Guide Book, I wanted to make sure that they truly adhered to the TIM, so I made an appointment with Dr. Susan Keller-Mathers, a professor at the ICSC, and an expert on the TIM. I wanted to see if any further changes were warranted, to make sure my activities were "TIMmy" enough. I met with Dr. Keller-Mathers, and we went through each of the activities. She made some suggestions, where language could be a little clearer, and was pleased to see that I had included the "While you were there…" suggestions, in order to explicitly carry the thinking skills through each stage of the model. Dr. Keller-Mathers declared the activities as adhering to TIM, and I quickly set about making the tweaks and changes as per her suggestions.

I had my sample book pages, and my project was just about complete, however, I felt that the pages I had created, while meeting the criteria I had selected and the guidelines for TIM, they lacked pizzazz and visual appeal (see original sample pages in appendix). I certainly did not feel very inspired or creative when looking at them. There were a lot of

words on the page, and the graphics were small and not very appealing. I decided to reach out to another friend. I contacted a friend that works as a graphic designer and advertising genius. I bribed her with breakfast and showed her my sample book pages. She agreed with my conclusions; the pages needed some help in the visual appeal department. She agreed to help me with the design and layout for the pages, to give them a more professional and visual appeal. The new and improved pages have all of the same information, but it is in a more easy to read format, with interesting graphics and color. I think the new pages, (see appendix) are quite an improvement!

Finally, one of the last things I did was send requests to the Buffalo Zoo, Tifft Nature Preserve and to the Buffalo and Erie County Botanical Gardens for request to use their logos in my guidebook. I am currently still waiting for their response. Should my requests be denied, the graphics, and logos with be changed out if and when the Guide Book gets published.

The process of getting the pages of the Guide Book completed took a lot longer than I expected. I also did not expect to have assistance on this project; however it would have been impossible for me to complete it without any. I have learned a lot; about myself, and the Torrance Incubation Model throughout this project as well as what still needs to be done if I ever truly want to see this Guide Book in print; all of which will be talked about in the following section.

Section IV: Key Learnings and Recommendations

Introduction

From the moment that I decided to undertake this project, I have felt a renewed sense of purpose. My desire to create something that will showcase the fantastic array of family entertainment options that living in Western New York has to offer has been reignited. I can see that my dream of enriching the lives of children by broadening their minds and their cultural experiences is within in my grasp, and that is so exciting! Being able to combine my love for the Queen City, my knowledge of creativity, and my deep-rooted passion for being creative has truly been a joy.

Well What Do You Know? Key Learnings

The main take-away from this project is the increase of my knowledge and understanding of the Torrance Incubation Model. Before undertaking this endeavor, I had enough of a basic understanding of the model to know that I wanted to use it as the foundation upon which to build the guide book. While I have tried to incorporate the use of the TIM into my lessons as an elementary classroom teacher, I have never given the thinking skills and how they work, or the model, and how it works as much thought as I have during the course of this project.

Initially, I had a very hard time trying to write the activities for each location, because instead of keeping the thinking skills in mind as my objective, I erroneously kept focusing on the way the learner processes the information that they are learning (Stage Two: Digging Deeper) After going back to the literature (more than once) and studying the model, I realized my error; that what I kept trying to push into my lessons and activities (diagnosing difficulties and integrating known and unknown information, evaluating and re-evaluating information, using any and all senses, making guesses and checking them; correcting,

modifying; making the best solutions better, summarizing, getting to the essence, discarding what is not useful, avoiding useless information and making mental leaps to new insights, searching for unanswered questions; becoming deeply absorbed, and opening up to new possibilities) was what would come naturally to the learner, if my lessons were planned correctly, by focusing on the thinking skills. Once I realized my mistake, writing the lessons and activities went so much easier, and made so much more sense.

The beauty of the TIM model is that it can be used to teach any content along with creativity skills. Creativity skills are real cognitive-processing skills that will enable our children to be able to assess their options, combine information to create new thinking, and then be able to evaluate the outcomes. I have a much deeper understanding and respect for the model after this project, so much so that I have begun to revamp my lesson plans for my elementary students to "TIMify" them.

One of the things that I learned about myself through this project is that I have the knowledge and the skills that it takes to encourage real change. Being an elementary teacher, a teacher of children with special education needs, often times it is difficult to gage one's effectiveness, as progress can be very slow. In explaining my objectives with this project to my colleagues, I was happy to see how interested and excited they became. I have had several requests from fellow teachers to show how the TIM works and how their existing lessons can be tweaked to conform to the TIM. In one case, just by re-working the beginning of a second grade teacher's lesson, where the teaching was very explicit and we made it more facilitative; where instead of being told facts they asked questions and found the answers to the questions themselves (which the answers ended up being the very same facts the teacher was going to tell them initially), the teacher noted that the students were more excited about

the lesson than the previous students had been and several of them used their free time to learn more about the topic, something that had not occurred with the previous class. The teacher was very excited and encouraged by this and we have plans to revamp some of the other lessons as well. It's a small step; however I feel that it is one small step toward living the mission of the ICSC, which is to ignite creativity around the world.

Recommendations

My desire is to see the completion of the Guide Book and to have it published. While my intention to have it published has always been in a printed book from, I am open to the idea of the possibility of publishing it as an e-book. The idea has its appeal, mainly in the fact that publishing an e-book is relatively simple and cost effective. Despite that fact, it would not be my first choice. I love books, have been raised on them, am raising my children on them, and for me part of the appeal is being able to hold it in my hands, and leaf thought the pages, looking at my options, contemplating the possibilities of each page. That being said, this project consists of ten sample pages of lessons and activities to include a Guide Book that seeks to encourage parents and children to experience Buffalo, New York through a creative lens. Through the course of this project I was struck by the many other things that would need to be included in a book of this sort, as my target audience, namely parents of young children, may only have limited, if any, background on the science of creativity. The completed Guide Book would need additional information outside of the lessons and activities, but those things fell outside the scope of this project. The following are some of the questions that I recommend should be addressed within the completed book:

Why is creativity such an important skill?

I know that as soon as most people hear the word "creativity" they immediately think arts and crafts. Creativity as a science, as a set of deliberate thinking skills and behaviors that can be taught, learned, and applied is a topic that is foreign to most people. It almost seems that what creativity is and what most people think it is should be described by two entirely different words. People need to know the difference and that at least in the context of this book, we are referring to a certain set of thinking skills; thinking skills that will foster a different way of looking at the world, interacting with information and experiencing thinking and learning. This information needs to be delivered in such a way that a person with no background in creativity would be able to understand creativity and its value. Once they understand the value of creativity and the creative thinking skills, they will understand the value of the information that is being put forth in such a book.

What are convergent and divergent thinking?

Any book that has an aim to teach different thinking skills, should without a doubt explain the difference between convergent and divergent thinking. Having language to describe a cognitive process makes it easier to understand that process and relate it to others. This question needs to be answered so that the target audience understands the balance that these two types of thinking have within the creative process.

What is Brainstorming?

The concept of brainstorming, as a tool for generating ideas/options, as well as the ground rules of deferring judgment and seeking wild and unusual ideas should be explained. This is something that comes naturally to children, so this explanation and the rules should be included to encourage parents to suppress their knee-jerk reaction of saying "that won't

work" or "that is not possible" in response to their children's wild suggestions. They should know that idea generation is at the heart of the creative process.

What is the creative process?

A simple introduction to the creative process should be included. The basic idea of identifying a problem, generating ideas around the problem, developing solutions from the ideas and then making and implementing a plan of action, should be covered. One's target audience should be considered before deciding as to how in depth an explanation is needed.

What are the component skills of creative thinking?

Parents should know what components are hallmarks of creativity**.** An explanation of the components of creativity: Fluency, Flexibility, Originality, and Elaboration should be given so that when this type of thinking is being demonstrated, parents will be able to recognize it as creative thinking and encourage it. Suggestions may be given on ways to use, and how to encourage the use of, each of the components.

Section V: **Going Forward**

Introduction

For myself, while I now understand how the TIM works, and how to write lessons and activities using the TIM, there are a few things that I still need to work out in order to bring this Guide Book to completion and to expand my creative reach in the future. I want this Guide Book to be a beginning, not only for myself, but for the parents who will read it. I want it to empower parents to use their family fieldtrips as more than just an opportunity to get out and see the sights, but as an opportunity to bond with their child, to nurture a desire to wonder and to foster a creative spirit.

Going Forward

In order to go forward, the answers to the following questions need to be considered:

In what ways can I be sure to include activities that can be done year-round?

While many of the activities that I have developed can be done year-round, others cannot. Places like Tift Nature Preserve, Buffalo's Waterfront, the Buffalo Zoo, the parks, and other venues are open year-round, but are under-utilized for the great resources they are in the winter months. Should I divide the Guide Book into sections seasonally, or just have a variety of activities for each venue with suggestions for the different seasons?

How might I develop workshops for parents, kids and/or educators using the TIM and activities like those developed for this project?

I would like to further explore ways in which I can expand upon the work that I have started here in order to develop some workshops or professional development training seminars using the TIM. I feel that the Guide Book itself would be the foundation upon which to build seminars or classes for others in order to teach about creativity and the creative thinking skills.

How might I develop the Guide Book itself to appeal to others living outside of Western New York?

In order to expand my reach, I need to consider what all the possibilities might be to adapt the guide book for others. I believe that I would have to identify my target consumer in the Western New York area – e.g., parents, home-school educators, educators, visitors to the area – to name a few. Then I will need to consider how to appeal to these same groups in other areas. Perhaps the Guide Book could be adapted to attractions and locations within

different cities. Who knows…maybe a Creative Chicago and a Creative St. Louis, along with other cities could be a future consideration. Or I may need to consider a more general book that offers suggestions for going to *a* Zoo, not specifically the Buffalo Zoo.

Conclusion

The completion of this project has been due to a great deal of hard work, the understanding and support of my family and friends, and the creative, quality instruction from experts in the field of creativity at the International Center for Studies in Creativity. I have grown in my knowledge of the science of creativity, in my career as a special education teacher, and in my approach to life. My teaching and students have benefitted from the unique and highly useful problem solving tools, the integration of TIM into my lesson plans, my deliberate use of creativity language and questioning, and the use of brainstorming techniques. I feel invigorated and excited about my future, as I seek to improve the lives and futures of other by educating them about creativity and igniting that spark. I don't know if I am ready to take on the world just yet, but I am ready to take on Buffalo.

Section VI: Summation

What is it all about?

The purpose of this project was to use the three-part Torrance Incubation Model (TIM) as the foundation upon which to create a Guide Book to the city of Buffalo, New York for parents. The two primary objectives of the Guide Book were to

1. Provide information about creativity and to teach creative thinking skills.

2. Serve as a tool for parents, to teach creative thinking skills to their children while increasing their enjoyment of, and motivation to learn about, the cultural and entertainment attractions in Buffalo, New York.

Before creating the book, I explained my background and how the idea for the book was inspired by my own experiences of visiting Buffalo's attractions with my own children. I then explained the need for teaching children the vital 21st Century Skills, creativity being one of them, and detailed how the current practices and methodologies in our schools are not only not teaching about creativity; they may actually be quashing children's innate creative abilities. I make the argument that if schools are not teaching or encouraging creativity, then it is up to parents to fill in the void by nurturing creativity and stimulating curiosity within their children. I then introduce the TIM and provide detailed information on each of the three stages of the model and how it is used.

I thoroughly documented step-by-step the process I used in creating the Guide Book, using the TIM. I encountered some challenges during the process, and details of how I solved them are provided. Finally, I offer a list of recommendations of additional elements would need to be included in the Guide Book should it be published. I also have included some questions for further consideration in the case of expanding the Guide Book to feature other cities and year-round activities.

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Appendix

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