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Inside Out Creativity: Nurturing Teachers as Creative Catalysts to Transform Education

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Inside Out Creativity™
Nurturing Teachers as Creative Catalysts
to Transform Education

by

Katie Ravich

An Abstract of a Project

in

Creativity and Change Leadership

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science
May 2024

Buffalo State University
State University of New York
Department of Creativity and Change Leadership

ABSTRACT OF PROJECT

Inside Out Creativity™ Nurturing Teachers as Creative Catalysts to Transform Education

This project is a thought piece aimed at re-evaluating and clarifying the potential of activating transformational creative change leadership in teachers. By embracing creativity as a human process, teachers can become catalysts for change within themselves and their students. This approach requires a nurturing and relational co-creative process, fostering a learning environment that values emotional well-being alongside intellectual growth for everyone. For teachers to stimulate others to be creative and innovative, they must challenge their own beliefs about creativity. There needs to be an explicit process that underpins these behaviors, integrated with a high level of emotional intelligence to nurture themselves and their students within the inevitable complexity and uncertainty they are moving through in their learning environment and their professional lives. I hope that by sharing my creative process during this project, I can inspire teachers to embrace their creativity as a fundamental aspect of leveraging the talents and skills they already use in their profession. Moreover, it's important that they are appreciated and respected for this and given the time to practice and implement newfound creative teaching methods.



Your Signature

17 April 2024

Buffalo State University
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16 April, 2024



Susan Keller-Mathers, Ed.D.
Associate Professor

16 April, 2024



Katie Ravich
Student

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SECTION ONE: BACKGROUND TO THE PROJECT

Purpose and Description of the Project

At its core, education is about transformation (Northouse & Lee, 2022). However, Jefferson and Anderson (2021) contend that governments, systems, or politicians seldom initiate such transformation; instead, it begins within the school, catalysed by educators who collaborate to reimagine educational spaces as creative, critically reflective, and communicative, prioritizing learners. This reimagining extends to teachers themselves, who, alongside students, engage in a co-creative process that is fundamental to school transformation. This process is not about individual capacity but a shared capability (Jefferson & Anderson, 2021). Creative teachers embody transformational leadership daily, adopting behaviours and actions that reflect leadership in schools, which are transformative settings (Northouse & Lee, 2022). From the moment they enter the school, they are attuned to the complex needs and motivations of their students, aiming to help them achieve their full potential. Drawing on Bass's (1985) four transformational leadership factors, these educators act as role models, inspire through high standards and a sense of team spirit, encourage creativity and critical reflection, and provide supportive coaching environments.

In our complex and interconnected world, children are increasingly influenced by experiences beyond their immediate family and community, including within the school environment. While parents remain crucial educators for children and young people, teachers play a pivotal role in shaping children's lives so they can live with the increasing complexity and change they face, now and into their futures. As education systems evolve, albeit slowly, it is imperative to foster environments where teachers can model how to embrace complexity underpinned by psychological safety. Witnessing this active approach inspires students' imaginations and builds their capacity for using creative problem-solving and emotional intelligence, essential skills in preparation to lead change. Educators practiced in synthesising

these skills can potentially lead more effectively in the complex environment of schools. In turn, a psychologically safe environment fostered by teachers can inspire students' imaginations, enhancing their ability to grow, share, and inspire others with open-mindedness, curiosity, courage, and self-awareness. It takes deliberate practice in the skills and tools of creative problem-solving and emotional intelligence to be leaders of change for the future, and teachers are the people who could have a considerable influence on this “living process.” However, I propose that the value of teaching creatively and fostering creativity in students (Jeffery & Craft, 2004; Patston et al., 2022; Sternberg, 2010) may be underestimated unless teachers themselves have opportunities to practise and embody these principles, through “understanding the inhibitors of creativity as well as those techniques that promote creativity, and a deliberate attempt to practice them” (Noller, 1970, p.209).

Creativity in a teaching and learning context is the practice of activating the imagination, building knowledge, and evaluating what has been produced during a creative process — grounded in awareness, openness, and curiosity. This foundation is established before simultaneously teaching for and with creativity can effectively succeed. I refer to this approach as the living process called *Inside Out Creativity*[™].

I hope that by sharing my creative process during this project, I can inspire teachers to embrace their creativity as a fundamental aspect of leveraging the talents and skills they already use in their profession. Moreover, it's important that they are appreciated and respected for this and given the time to practice and implement newfound creative teaching methods.

Much of the research on creativity in schools focuses on its impact on students (Mullet et al., 2016; Runco et al., 2007; Zamana, 2022), which aligns with the goal of excellent teaching – helping students reach their full potential. However, this focus on student outcomes often overshadows the importance of nurturing the creative process of teachers.

There is a need to shift our focus more towards the process of learning rather than focusing on outcomes. This involves changing the role of teachers to guide and support students through their learning process (Zamana, 2022), with the ultimate goal of giving them autonomy and agency in their learning.

Throughout the Master of Science in Creativity and Change Leadership, I have pondered the lack of emphasis on fostering teacher creativity, a question that has informed my research and reflections. Effective transformational leadership and creative change begins with teachers, who are potentially the most significant influencers on children's futures. However, the challenges they face, including burnout and high attrition rates, (Black Dog Institute, 2023) point to a need for a system that respects and nurtures them as individuals first, recognizing their need for creative expression and a healthy work environment. This question has hummed away in the background of most of the subjects explored across the Master's program. However, it has not always been framed this way. By revisiting critical data from past thinking, I hope to make further connections to conceptually strengthen a living process model for teachers I have been synthesising throughout the Master's program.

This project is a thought piece aimed at re-evaluating and clarifying the potential of activating transformational creative change leadership in teachers. By embracing creativity as a human process, teachers can become catalysts for change within themselves and their students. This approach requires a nurturing and relational co-creative process, fostering a learning environment that values emotional well-being alongside intellectual growth for everyone. For teachers to stimulate others to be creative and innovative, they must challenge their own beliefs about creativity. There needs to be an explicit process that underpins these behaviors, integrated with a high level of emotional intelligence to nurture themselves and their students within the inevitable complexity and uncertainty they are moving through in their learning environment and their professional lives.

Creativity, conceptualized through Dr. Ruth Noller's (1970) classic formula $C=fa(K, I, E)$, serves as the foundational framework for this project. Noller believed that Creativity is a function of Knowledge, Imagination and Evaluation, reflecting an interpersonal Attitude toward the beneficial and positive use of Creativity (Isaksen et al., 2000). This framework for creative behaviour provides four strands to ground my thinking during this project, as the creative process is complex, elusive, and at times hard to articulate, so this guiding formula will help me lay the foundations to my thinking as well as map this process. To reach insights that can advance and consolidate further thinking, I will also utilize a selection of Torrance and Safter's (1999) "leap skills" within the foundational framework based on Noller's (1970) creative formula.

Reflecting on my journey through the Master's degree, I recognize that actively asking questions and forging connections has been pivotal to my evolving understanding of creativity. This process has sparked numerous "a-ha" moments, propelling me into further exploration and discovery. Initially, my focus was on the potential of children and young people to act as catalysts for change within the educational system. However, this perspective underwent a gradual transformation as I engaged deeply with the creative projects and research throughout the program. It became increasingly clear that teachers play a crucial role in driving transformative change. This insight emerged not abruptly but as a result of my immersive engagement with the coursework and creative output during my studies.

Lived experiences shaped my desire to join the program in the first place. I will share this story to set the scene for what brought me to the Master of Science in Creativity and Change Leadership and why studying applied creativity was an essential next step.

My process to produce any work was, and still is, multifaceted, involving the application of the creative problem-solving process with creative thinking skills to conceptualize in this case, a living process model for teachers. By re-evaluating my creative

journals, research and projects centred around creative education, I aim to retrace and refine core ideas that guided my exploration. Among these were envisioning a creative learning spiral for children and more recently a living process model for teachers. Through studying the history of creativity and drawing insights from leading scholars in the field, further ideas emerged. A key component of my journey was intentionally integrating creative thinking skills into daily life as well as educational practices. This joyful practice was the catalyst to designing teaching and learning experiences using *The Torrance Incubation Model* (Torrance & Safter, 1999; Keller-Mathers & Murdock, 2002).

I developed a personal philosophy centred on creativity and leadership in driving creative change, which led me closer to making connections to see teachers as catalysts for change alongside children and young people. I completed the process by reflecting on further questions and research beyond this project.

Goals of the Project

As this project is a thought piece, my most important goal is to expand and clarify my thinking by synthesizing new insights that will eventually strengthen the design and application of a living process model for teachers. Other goals that support my thinking throughout this project are;

- enjoying the process of making connections, as a foundation to understanding myself better and where I can have the most impact in education through creative change leadership and the use of affective creative thinking skills and tools.
- building confidence, skills and expertise towards becoming an inspiring creative change leader in education.
- discovering how to use my creativity to continue to illuminate the transformative power of creativity in education, not just as a theoretical concept but as a practical pathway to meaningful change.

- synthesizing new insights at the conclusion of the project to ask the question “Where to now?” In synthesizing my research, the question of whether teachers recognizing themselves as creative catalysts to lead transformational change in education is an ongoing question in the background of this thought piece, however while it informs the project, it is not the outcome of this project. The long-term goal is to develop a tangible process model for teachers. However, more time and the inclusion of teachers’ voices is needed for that next step.

Rationale for Selection

In Carl R. Rogers’ seminal article “Toward a Theory of Creativity” (1976), he defines the creative process as “the emergence in action of a novel relational product, growing out of the uniqueness of the individual on one hand, and the materials, events, people, or circumstances of his life on the other” (p. 297). This definition captures the essence of the creative journey I am undertaking with this project. It embodies a simultaneous and relational thinking process that occurs in interaction with both myself and the thoughts of others. The “emergence in action” refers to the new insights and “aha” moments I seek as I strive to develop a “novel relational product”—through the re-evaluation of something that is beneficial and positive for others. Immersing myself in this creative process involves taking action in the synthesis of knowledge, imagination, and the evaluative process, coupled with an interpersonal attitude characterized by passion and a desire for a positive and beneficial outcome (Isaksen et al., 2000). This is where I find my greatest service to others and one of the reasons why this project holds immense value for me at this moment in time.

We know creativity as a skill is in demand and essential for progress. Still, it is even more essential to see creativity as a nurturer of the emotional well-being of our teachers and those they teach, as creativity is also a thinking and being process along with the skilful doing of creativity. In this way, the creative process is embraced by psychological safety and trust

that is intentional and authentic through teachers trained in utilizing their emotional intelligence within a creative problem-solving process. Activating emotional intelligence is also a powerful transformational tool to catalyze change in others, even at its most subtle level. It happens inside our awareness development in a synergistic relationship with the outside cognitive processes (Parnes, Noller, & Biondi, 1977). When we lead skillfully with emotional intelligence and are skilled at creative problem-solving, particularly when nurturing children and young people, we are modelling for them that emotions are skills that lead with meaning and purpose. This is the foundation for teachers to become transformational creative catalysts in the education system, even up against the volatile, uncertain, complex, and ambiguous education system within which many teachers struggle to remain.

As Dr. Ruth Noller (1970) believed, understanding the phenomenon of creativity offers a unique opportunity to build knowledge—to leverage all that we are—to observe more carefully, listen more attentively, and forge more connections by manipulating that knowledge and evaluating how it can be improved. In the case of this project, sharing the journey of going back to move forward as a thinking process represents an authentic contribution to positively highlight the transformative power of teacher creativity for change. This is not just a theoretical concept but a meaningful pathway to change the system from the ‘inside out’, with teachers acting as catalysts for change. The journey of *Inside Out Creativity*[™]; the term I use for the living process model I am designing, began as a personal quest undertaken on behalf of our own children to creatively support their educational journeys. I then needed to teach it to them. However, I did not realize at the time that the living (and lived) process we were practicing could be beneficial to others, until I began to apply the being, thinking, and doing skills and tools we learned in the Master of Science in

Creativity and Change Leadership program and to reflect on the kind of creative change leader I could become professionally in the future.

In this phase of my journey, I am exploring ways to communicate my experiences with others, especially our teachers, in the near future. The profound effects of the Master of Science in Creativity and Change Leadership program—enriching my knowledge, empowering the use of my imagination, and enhancing my research and evaluative skills—have led me to my current position. This thought piece is designed to add dimension and deliberately map my thinking, however further consolidation will not be evident until after completing the project. At that point, I anticipate with excitement there will be more questions, as is fitting when one is engaged in a creative process.

SECTION TWO: PERTINENT LITERATURE AND RESOURCES

Introduction

During the Master of Science in Creativity and Change Leadership program, I collected a vast amount of literature and resources that informed my thinking. These sources were primarily focused on creative education, aiming to forge rich connections across subjects within the program. This approach stimulated ongoing questions about who could lead transformative change in education, including the methods and reasons for its necessity. Table 1 presents synthesized themes across subjects taken during the Master’s degree, highlighting focus points from research relevant to the project.

Aligning Literature Framework to Noller’s Formula

In Section Four; Outcomes, I delve deeper into these themes and focus points by revisiting my research, structured under three stages: Expand, Clarify, and Ground. This structure aligns with the three pillars of Noller's (1970) creative equation—Expanding Through Imagination, Clarifying Through Knowledge, and Grounding Through Evaluation to reach new perspectives and "aha" moments. In each stage, I intentionally integrate “leap skills” (Torrance & Safter, 1999); 1) Keep Open, 2) Sensing Gaps, 3) Look at It Another Way, 4) Highlight the Essence, 5) Put Your Ideas in Context, 6) Get Glimpses of the Future and finally 7) Visualize It – Richly and Colorfully (See Table 1).

Table 1

Synthesized Themes from Subjects and Focus Points from Research

Themes: Expanding Through Imagination	Focus Points from Research
1. A Lived Experience – Finding A Voice Through Creative Courage 2. Children as Agents for Change in Education 3. A Creative Process for Teaching and Learning in the 21 st Century 4. The Creative World of Mister Rogers 5. Connectivity in Real and Virtual Spaces 6. Fostering Motivation Through Technology 7. Synthesizing A Living Process	Lived experiences, literature and resources foundational to my initial thinking about who can lead transformational change in education. Designing a creative process for teaching and learning. Expanding thinking through CPS,

8. Expanding Through CPS & Affective Skills 9. TIM'izing Inside Out Creativity™	affective skills and the Torrance Incubation Model.
Themes: Clarifying Through Knowledge	Focus Points from Research
10. Leading Inside Out Creativity™ 11. Emotional Intelligence – A Skill for Change	Universal principles to guide myself and towards becoming a transformational creative change leader in education.
Themes: Grounding Through Evaluation	Focus Points from Research
12. Teacher Burnout – A Catalyst for Change 13. Biases, Blocks, Barriers and Disincentives to Creativity 14. Teachers as Catalysts for Change	Literature and resources that informed my thinking about teachers as transformational catalysts for change. Narratives for further questions and research beyond this project.

Literature Explored

The literature below is derived from research on creative education from multiple perspectives we learned across subjects in the Master of Creativity and Change Leadership. Based on their relevance to the creative process of this project, they may be included in Section Four under the appropriate themes, along with newfound research as I continue to map my thinking and make more connections.

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SECTION THREE: PROCESS PLAN

Plan to Achieve Goals and Outcomes

If I successfully utilize the creative behaviour of Noller's (1970) classic formula $C=fa(K, I, E)$ throughout this project, to adopt a positive attitude and take advantage of all that I am, to look more carefully, listen more carefully, think more deeply, and be open to making more connections by going back through my research to evaluate my thinking, (Noller) I could potentially reach the outcome to experience new insights that strengthen the ongoing purpose of the project. This process aims to get closer to answering the critical question of how I can guide teachers to become the catalysts who can transform the education system. By focusing on the creative process as the project, I will gain more expertise in practicing creative problem-solving, using creative thinking skills, and moving closer to becoming an unconsciously skilled creative change leader (Puccio et al., 2011).

Sharing this thought piece is purposeful as there is a reason to find out how I can create something better for teachers that will support and guide their creativity, and intentional to see whether I can practice using my personal creativity and developing transformational creative change leadership skills as I write up this thought piece, to show teachers how they can do it for themselves. I cannot create a living process model for teachers unless I experience that process myself. The a-ha moment I had while writing this section is that this project is a practice of *Inside Out Creativity*TM; using creative problem-solving skills, affective creative thinking skills and emotional intelligence to value and consolidate my thinking during the creative process of a project. The long-term outcome of this project is mapping a new iteration of *Inside Out Creativity*TM using new connections, insights, and a-ha moments from the process of writing up this project. Including sketches and designs of my thinking will clarify how to visualize a living process.

Project Timeline

The timeline depicted in Table 2 is organized by month and week to show when I will be reviewing and critically evaluating research and resources related to the themes in my pertinent literature, and writing up results for each theme. The timeline also includes the course requirements, major milestones, and due dates.

Table 2

Project Timeline

Activity	Deadlines (2024)	Hours	Notes
Concept Paper submitted	February 11	40	Approved February 16
Section 1-3 to sounding board partners	March 12		
Section 1-3 submitted	March 17		
Section 4: Outcomes Expanding Through Imagination <ul style="list-style-type: none"> • A Lived Experience– Finding a Voice Through Creative Courage • Children as Agents for Change in Education • A Creative Process for Teaching and Learning in the 21st Century • The Creative World of Mister Rogers • Connectivity in Real and Virtual Spaces • Fostering Motivation Through Technology • Synthesizing A Living Process • Expanding Through CPS and Affective Skills • ‘TIM’izing Inside Out Creativity™ Clarifying Through Knowledge <ul style="list-style-type: none"> • Leading Inside Out Creativity™ • Emotional Intelligence – A Skill for Change Grounding Through Evaluation <ul style="list-style-type: none"> • Teacher Burnout – A Catalyst for Change • Biases, Blocks, Barriers, and Disincentives to Creativity • Teachers as Catalysts for Change 	Feb 19-March 31	100	6 weeks
	April 1-April 17	50	2.5 weeks
Submit full document to instructor for draft review- Sections 1-6	April 11		Sections 1-6 due April 29
Edits to document/instructor feedback	April 15	15	
Entire project submitted	April 16		
Approval to upload to Digital Commons	April 17		
Uploaded to Digital Commons	April 17		Due May 6

Evaluation Plan

The entire project serves as a reflective exercise on my journey towards catalysing and implementing transformational creative change leadership in education. This project aims to enrich my own understanding further before synthesizing it as living process model.

To evaluate my outcomes, in Table 3 I have crafted reflective questions based on my goals. These questions will assist in verifying my learning objectives and facilitate further reflection on both successes and areas requiring further exploration. Additionally, I plan to seek feedback from my sounding board partners and instructor to further enrich this process.

Table 3

Evaluation Plan to Reflect on Goals

Goal	Reflection
To enjoy the process of making connections, as a foundation to understanding myself better as a creative change leader in education using tools from CPS, creative thinking skills and emotional intelligence to lead the project forward.	Was writing up this project an enjoyable process? What worked? What would you do differently? Did the process of creating this project help to understand yourself better as a creative change leader in education? What has been the impact on your personal growth using affective creative thinking skills and tools during this project?
Goal	Reflection
To discover how to use my creativity to continue to illuminate the transformative power of creativity in education, not just as a theoretical concept but as a practical pathway to meaningful change.	How successful were you in illuminating the transformative power of creativity as a practical pathway to meaningful change?
Goal	Reflection
To discover how to use my creativity to continue to illuminate the transformative power of creativity in education, not just as a theoretical concept but as a practical pathway to meaningful change.	How successful were you in illuminating the transformative power of creativity as a practical pathway to meaningful change?

Using these reflections as a starting point, at the end of the process I will share reflections in Section 5, Key Learnings. I will then decide at the conclusion of the project how I will continue to develop the living process model, seeking formal feedback from my

instructor. This will help clarify the future goals of 'Where to Now?' at the conclusion of the project.

SECTION FOUR: OUTCOMES

Expanding, Clarifying and Grounding a Creative Process

During this project, I followed a creative process based on Noller's (1970) equation for creativity, as outlined in Section One. This approach aligns with the structure of the Master of Creativity and Change Leadership, where the curriculum integrates the three 'strands' of Knowledge, Imagination, and Evaluation, along with capstone subjects focused on interpersonal Attitudes towards creativity. A deliberate effort was made to revisit research through these three strands across subjects, while also deepening the process of mapping my thinking, through practicing Torrance's (1999) "leap skills," which we were taught to integrate and apply throughout the Master's program. Specifically for this project, I focused on practising and applying seven "leap skills" to map my thinking sequentially across the project, as outlined below in Table 4.

Table 4

Torrance Leap Skills Used to Map My Thinking

1.Keep Open
2.Sensing Gaps
3.Look at It Another Way
4.Highlight the Essence
5.Put Your Ideas in Context
6.Get Glimpses of the Future
7.Visualizing It – Richly and Colorfully

I recognised the attitudinal nature of these skills in application, as they propelled my thinking towards a beneficial and skilful use of creativity. Expanding, clarifying and evaluating my thinking effectively would have been challenging without these skills. This meta-awareness in creative thinking has enhanced the positive application of creativity in my professional practice and is embedded in my everyday thinking. Documenting the process of

mapping my thinking has further deepened my practice in these foundational skills, steering me closer to becoming an unconsciously skilled creative change leader, defined by Puccio et al., (2011) as someone who introduces, facilitates and inspires creative change in others so that leadership becomes a creative process.

The process of mapping my thinking up to this point helped me to expand, clarify and evaluate where I was at in the process. Fourteen themes that helped map my thinking were grouped under three stages: Expanding Through Imagination, Clarifying Through Knowledge and Grounding Through Evaluation (See Table 5).

Table 5

Themes Across Three Stages to Map My Thinking

Stage One: Expanding Through Imagination
<ol style="list-style-type: none"> 1. A Lived Experience – Finding a Voice Through Creative Courage 2. Children as Agents for Change in Education 3. A Creative Process for Teaching and Learning in the 21st Century 4. The Creative World of Mister Rogers 5. Connecting in Real and Virtual Spaces 6. Fostering Motivation Through Technology 7. Synthesizing a Living Process 8. Expanding Through CPS and Affective Skills 9. TIM’izing Inside Out Creativity™
Stage Two: Clarifying Through Knowledge
<ol style="list-style-type: none"> 10. Leading Inside Out Creativity™ 11. Emotional Intelligence – A Skill for Change
Stage Three: Grounding Through Evaluation
<ol style="list-style-type: none"> 12. Teacher Burnout – A Catalyst for Change 13. Biases, Blocks, Barriers and Disincentives to Creativity 14. Teachers as Catalysts for Change

This included reflecting on interpersonal attitudes using creative thinking skills aligned with the three stages of mapping my thinking (See Table 6), noting the creative thinking skill, “Visualize It – Richly and Colorfully” was used for sketching at key points throughout the project.

Table 6

Creative Thinking Skills Used to Reflect on Interpersonal Attitudes

Expanding Through Imagination
Keep Open, Sensing Gaps, Look at It Another Way
Clarifying Through Knowledge
Highlight the Essence
Grounding Through Evaluation
Put Your Ideas in Context, Get Glimpses of the Future
Visualize It – Richly and Colorfully

Expanding Through Imagination

In Stage One: *Expanding Through Imagination*, I utilized the creative thinking skills “Keep Open,” “Sensing Gaps”, and “Look at It Another Way’ (Torrance & Safter, 1999) to revisit experiences that motivated me to apply to the Master of Science in Creativity and Change Leadership program. The overarching purpose of this thought piece was to research creative solutions to the significant question of who could lead long-needed transformational change in education. When applying for the Master’s degree in April 2021, I wrote in my statement of intent:

What if children become their own educators in authentic collaboration with their families, teachers, and mentors? With their different sensibilities and gifts, combined with tools and training, could we design a way to empower them to contribute and be valued in society, allowing them to define success on their terms? Could this alleviate the enormous stress and pressure even very young children feel today to be appreciated and understood, by restoring their natural curiosity to learn and make an impact? They start with vast imaginations and immerse themselves in sensing the world around them as a place of wonder, excitement, delicious danger, and challenge. If we listen deeply to what ignites their learning from a young age and continue to be brave enough to keep providing them opportunities to test flexible boundaries at home and in school using innate creative thinking skills, could they lead us into a paradigm shift in education?

This imaginative and somewhat idealistic call to action was inspired by the personal experience of guiding our children through an education system that, as our son described at twelve years old, was for surviving, not thriving. The charged thinking behind this call, or as Gordon (1970) described it in the creative process—the emotional and irrational aspects of the mind—contained powerful truths as I began to explore possibilities to answer this call. The

first step for me was to find creative courage. I now realize that I clarified and synthesized the essence of that early call to action when designing creative teaching and learning experiences in subjects across the Master’s program, refining the call to action as a more realistic and applicable process as follows: “Creativity is foundational to learning. By building courage and confidence, creativity can be cultivated in everyone. Training in self-awareness and motivation, using creative thinking skills, builds agency and advocacy for taking creative action.” However, I would not have confidently synthesized this more clarified call to action if I were not learning in an environment of psychological safety, which in this case was learning with the online cohorts and our instructors in the Master of Science in Creativity and Change Leadership. Psychological safety was first mentioned by Carl Rogers, an eminent clinical research psychologist, in his article; *Towards a Theory of Creativity* (1976) to create an environment or ‘climate’ for people to feel safe to experience creative freedom, no matter what context they find themselves, based on the following principles; a). accept each individual as of unconditional worth, b). provide a climate in which external evaluation is absent, c). understand empathetically, and d). give psychological freedom. See Figure 1 below for an imaginative sketch of an environment of psychological safety.

Figure 1

An imaginative sketch of an environment of psychological safety



I remember vividly joining the first Zoom meetup during the pandemic and seeing the *joie de vivre* of our instructors, who I realize now were effortlessly practising several of Torrance's (1999) creative thinking skills – simultaneously. They were laughing and teasing each other. They were managing mistakes with the technology and introduced the idea of an unlimited mistake quotient of 30 mistakes, then 30 more. They were modelling how to keep open, take risks in our thinking, and embrace playfulness and humour (Torrance, 1999), before we knew these were applied creative thinking skills that would become embedded, as we practiced them repeatedly throughout the program and in our lives.

A Lived Experience – Finding a Voice Through Creative Courage

In an interview with existential psychologist and writer Rollo May (2013), he stated: Joy is the zest you get out of using your talents, understanding, and totality of your being for great aims... That's the kind of feeling that goes with creativity. That's why I say the courage to create. Creation does not come simply from what you're born with. That must be united with your courage, both of which cause anxiety but also great joy. (ThinkingAllowedTV, 2013, 7:07)

This sentiment profoundly resonates with the experiences we have lived through in our family as we navigated the anxieties and joys of educating two children through an education system that was sometimes out of step with their needs, desires, and sources of joy. We instinctively knew it would take enormous courage to guide our sons through their education. I recognized this challenge as one I would fall in love with and pursue with intensity (Torrance, 1983), a pursuit that, upon reflection, I am still engaged in with a broader purpose beyond our own family. Pursuing this “something” to guide our sons and find the most optimal and inspiring path through their education required more than practical steps, such as changing school environments or finding counselling for them. I needed to look beyond accepted practices and be prepared to face harsh criticism, rejection, and ridicule from the

status quo. I had to persist and endure, which required great courage and creativity (Torrance & Safter, 1999). Torrance (1983) states in his article, “The importance of falling in love with ‘something,’ that he is convinced the driving force behind future accomplishments is the image of the future of people” (p.72). At that time, it was about using creativity to create a positive future for our children. However, it became a multi-directional and intense pursuit (Torrance, 1983) to examine all the dynamic and challenging parts of a paradigm shift in education, using lived experience and imagination as the highest form of research to guide my thinking. The following scenario foreshadowed the challenges ahead for our family through the curious eyes of one of our sons at four years old:

It’s 6 am on a chilly winter morning. I am woken with a jolt to find our four-year-old son standing next to the bed. In a very chatty voice, he says, “Mum, did you know an atom is the smallest particle on Earth? Can we go to the park now to look for one?”

We already knew he had an insatiable appetite to learn with a joyful innocence. Reflecting again on this moment, I realize he was practising two of Torrance’s (1999) foundational creative thinking skills: the desire to act on his curiosity and to look at his thinking in another way. Rollo May stated in *The Courage to Create* (1975), “Genuine creativity is the process of creating something new and exciting, characterized by an intensity of awareness, a heightened consciousness” (p. 44). Our son was using his creative voice and wanted the choice, right then at 6 am, to pursue his curiosity with joy. Or, as Kaufman and Beghetto (2009) would say, he was in the midst of “Mini-c” creativity, eager to make connections about what he knew to forge even more connections. We instinctively knew it was our job to keep him open to the experiences that lit him up, helping him make sense of the world by flexing his imagination. V. Rodgers in the foreword to Torrance & Safter’s seminal book, *Making the Creative Leap Beyond...* (1999), shares these profound and familiar words of wisdom about all children:

The children on this planet share a trait that knows no boundaries. At play, their imagination has no limits. They are our greatest instructors in free play, for they are not bound by what are limits...or by what is or what is not. They are indeed the masters at extending the boundaries of the imagination. (p.vii)

Rogers (1976) defines the creative process as “the emergence in action of a novel relational product, growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of your life on the other” (p. 297). This project is “emergence in action”. However, whether it is novel is yet to be determined and, at this point, it is not necessary to know. It is relational as it points to finding solutions that could positively affect teaching and learning practices and not just more and better, but looking at the problem through alternative solutions that emerge over time (Torrance & Safter, 1999). Remaining in a state of psychological openness (Rodgers, 1979) is the key to being a more creative person and has been foundational to living with the question of transforming education. Taking another deep dive into the research without resisting premature closure is essential to keeping open (Torrance & Safter, 1999), hopefully leading to sensing more gaps or making more connections in my thinking. Torrance once described creativity through a process not unlike a scientific method:

I have tried to describe creative thinking as taking place in the process of (1) sensing difficulties, problems, gaps in information, or missing elements; (2) making guesses or formulating hypotheses about these deficiencies; (3) testing these guesses and possibly revising and retesting them and finally; (4) communicating the results.

I like this definition because it describes such a natural process (Torrance, 1995, p.72)

I also like this definition as it encapsulates the balance between a creative process being natural, given and within us all and something that can be enriched and deliberately

applied to our thinking through revisiting a creative process, in a continuous feedback loop of experiences.

The question of transforming education as a paradigm shift is a big leap, especially the idea that it could be led by children, as for them, it is a natural process, at least in their early childhood. Perhaps we underestimate the power of their young minds, as Dr Stephen Harris, Co-Founder and Chief Learning Officer of Learnlife, believes – a new learning paradigm is needed to prepare learners for the future, commonly seen by some as volatile, uncertain, complex, and ambiguous – the VUCA world. He asks us to consider a different meaning to the VUCA world, seeing the way forward as a Vision that is Unifying, Creative and Active, where learning equips individuals to be continuous and autonomous learners, embodying resilience, adaptability and ethical integrity, growing a self-transforming mindset, with an emphasis to shift to cultivating robust autonomous learning capabilities (Harris, 2023).

Children as Agents for Change in Education

Remember our son's plea for change? "I'm not thriving. I'm just surviving!" He had more to say: "I go into school saying to myself, this is going to be a good day, but by the end of the day, I can't wait to get out of there." What drove him to plead with us to change his situation? He still reflects on how powerless he felt, and we reflect on how it could have been different for him if he had the voice and choice to lead his education. If someone in that school had asked him, "What do you want to do differently?" At that time, he had no agency, and even after we advocated for him, it would never have changed his situation. We understood that he needed to learn to advocate for himself – to recognize and meet the needs specific to his abilities without compromising his dignity or that of others. (Douglas, 2018)

Children's ability to be heard is hindered when play stops and testing begins. I wrote this statement in my creativity journal during CRS 559, *Principles in Creative Problem Solving*, driven by frustration over our son's experiences. He leapt into high school at twelve,

moving from the safety of his primary education, and eight months later, he had his “ah-ha” moment – he was not in the right environment for optimal learning. When we found the underlying cause of why he was frustrated and sad, we asked him what had led to that point of clarity. He shared a moment of lining up to get his lunch at the canteen, and the main talk amongst his peers was about what mark they got on the maths test and what number rank they were in the year. He could not understand why this was the most important thing to talk about in their break when there were so many other things to discuss. At this stage, he had moved on from atoms to dragons, and to drown out the competitive environment he found himself in, he absorbed himself in the world of fantasy fiction, which, to this day at twenty-one, he still lives for, studying to become a Concept Designer for film, animation, and game design. He clearly understood that his education was based on competition, measured against others. Jefferson and Anderson (2017) argue that change starts with the imagination, and for people to imagine, they must learn how to imagine and dwell in an environment that fosters creative possibilities. This began a process of years as a family, sensing the gap between what his education expected of him and his self-concept of where he wanted to go next, on his terms, dignity intact.

Having a competitive advantage means you have something that sets you apart from others - competing in an activity to gain or win something by defeating or gaining an advantage over another individual or team. There is a view of competitive advantage in education through the lens of competition for human capital — the best students, teachers, and leaders and the best resources to put the whole school in an advantageous position over other schools, ultimately to best prepare students for economic competitiveness.

Globalization has increased competition in world economies and within and between education systems (Sahlberg, 2006). This systemized control of competitive advantage fails to consider its erosive effect on the hearts and minds of those experiencing it. Sir Ken

Robinson, in his ground-breaking book *Creative Schools* (2015), argued: “There is a place for competition in education, as in the rest of life. However, a system that sets people against each other fundamentally misunderstands the dynamics that drive achievement.” (Robinson & Aronica, 2015, p.233)

Students and their teachers thrive on partnership and collaboration, which encourages amicable, cooperative competition using creativity at its centre rather than fierce competition, as Robinson stated in an interview with Noonoo (2018):

Competition in itself is not a toxic dynamic. On the contrary, it can be very constructive and a great motivator. But like most things, there are good and bad versions of it. Where kids are being pitted against each other based on spurious forms of testing, it sets up a false sense of antagonism between people that I think we should avoid. (p.1)

I remember in the first interview with that same school when our son was eight years old, the principal told us that he was ‘too creative’ for their school, and then, six months later, she retracted that statement because our son performed well academically. His ability to think creatively and show one of the things he loved to do (reading) in that interview, was less important than what he could achieve academically for his school. She was not impressed that he spent some of his time in the interview engrossed in his book when she asked him questions. Perhaps his love for reading was why she didn’t want him in the school. Jean Piaget the renowned cognitive child psychologist, stated in a well-known quote that puts the trust in children leading the learning process; “How can we, with our adult minds, know what will be interesting? If you follow the child you can find out something new” (Piaget, n.d). We began to understand that how our son constructed his learning was as important, if not more important, than how a school thought our son should be learning to achieve. In the

article ‘Why care about creativity?’ (Szustaczek, 2014) Dr Puccio, Department Chair and Director of the Center for Applied Imagination at Buffalo State University, remarked:

The unique competitive advantage humans have is the ability to create, that’s how we survived...Everything we see in our society that we come in contact with, whether it’s tangible or intangible, came from human imagination. Anytime there’s a gap between where we are and what we want – and we don’t know how to close that gap – we call on our imagination to find the solution. Creativity really is a life skill. (p.1)

A Creative Process for Teaching and Learning in the 21st Century

How could this vision be reframed if the path forward envisions children leading transformative, unifying, creative, and active change (Harris, 2023)? Before enrolling in the Master’s degree, I was developing a creative process model for children and their families called *Leaf Pixel*. For now, the model’s name is a metaphor symbolizing the synthesis of dynamic, traditional learning principles (the ‘leaf’) with the dynamic potential of technology (the ‘pixel’). Inspired by the natural, integrated creative process through which children learn, *Leaf Pixel* values their creativity within a psychologically safe environment as foundational to their continuous growth.

This environment is a place of trust they can return to in the thinking, being, and doing of their unique creative process. Throughout this process, the environment protects and nurtures the integrity of their imaginations, teaching and applying creative thinking skills and developing their emotional intelligence. This process activates the courage, confidence, and intrinsic motivation to reach their full potential.

However, they are not alone in this process. As I wrote these words, my husband walked into my study and gave me a coffee. The smell of coffee brought back memories of my father, who passed away in 2012. He would work long hours in his study, always with a black coffee on his desk. Along with our mother, he provided my siblings and me with a

foundation of psychological safety to become who we wanted to be. They listened to us, encouraged questions, built on our curiosity, deepened our knowledge with their wisdom, and helped us evaluate our thinking from an early age. We had a safe space to grow without external evaluation, and we were given the psychological freedom to be creative; they modelled understanding through empathy and accepted us unconditionally (Rogers, 1976).

In Figure 2 below is an imaginative sketch of how the process of *Leaf Pixel* may grow in a child, with the support of adults like my parents.

Figure 2

An imaginative sketch of how the process of Leaf Pixel grows in a child



Behr & Rydzewski (2021) believed that when it comes to learning, the presence of caring adults outweighs almost everything else. Being present was our top priority in helping our children face educational challenges. I realize now that I could not have helped our sons navigate the education system without that foundation of psychological safety in my own upbringing. What I do know about my father's childhood is that as Polish refugees fleeing Nazi occupation, his mother had to use creative thinking to survive, to protect themselves and

to get him to safety. As a result of these early experiences, our father was determined to do more than survive. He was determined to thrive.

Even after physically leaving our family when we were young teenagers, he continued to provide psychological safety. He encouraged us to remain open to possibilities to view ideas, situations, and experiences differently. He never gave us the answers, just signposts for more questions. He never belittled us for our mistakes; he just listened. His way of teaching us about life was through analogies. As for practical advice, we learned through experimenting, taking risks, and making wrong turns. I am eternally grateful to both my parents, as they have given me the confidence, agency, and passion to build this process from our lived experience—to walk alongside children and their teachers, just as our parents did with us. On my father’s headstone are the words, “Life is meaningless without death. I’m still curious.” My father’s declaration is another opening to look at our lives differently. People we love die, but their wisdom lives on. Their wisdom will not guarantee a successful life. Still, if you keep asking more questions, you have more possibilities to thrive and the potential to grow in whatever way you can imagine, especially if you have teachers who are inspired and motivated to support that process within themselves and in others.

The Creative World of Mister Rogers

For the creativity book assignment in CRS 530, I wrote a letter to the authors Behr and Rydzewski of *When You Wonder, You’re Learning: Mister Rogers’ Enduring Lessons for Raising Creative, Curious, Caring Kids* (2021). The letter shared connections between Rogers’ philosophy of teaching and learning and Torrance’s creative thinking skills (1999), how those connections informed my thinking about the *Leaf Pixel* model for children, and my reflections on why Rogers came to be loved by so many. He was a unique individual who personified someone who had quietly synthesized his thinking into his being and doing to be authentic, all day, every day, in his personal and professional life. He was skilled in many of

Torrance's creative thinking skills (1999). He worked on behalf of children to kindly and calmly introduce these affective, creative thinking skills to children and parents in every TV episode of *Mister Rogers' Neighborhood*. Below is an example I wrote in my letter to the author where he takes his audience on a journey about the wonder of spoons:

Rogers piques their curiosity by stating, "I just never knew there were so many kinds of spoons!" He highlights the essence of what comes next by asking another leading question, "And do you ever wonder where spoons come from?" He produces and considers many alternatives by showing the children many kinds of spoons. He then elaborates, but not excessively, by introducing the children to a slow-paced film about how spoons are made from beginning to end, summing up the whole learning experience by putting ideas into a real-world context when he states, "Both men and women design spoons. We watch machines churn out prototypes, workers make revisions and refinements, and inspectors in pursuit of perfection." He then shows the children his friend with a "special spoon talent" and finishes by asking the children to think about "something that would have spoons in the story." (Behr & Rydzewski, p.41)

Whether Rogers was broadcasting to millions of children throughout his 33 years of presenting *Mister Rogers' Neighborhood* or out in the community making connections with others through what he called "tools for learning" (curiosity, creativity, collaboration, communication, and connection), his philosophy was of self-acceptance, building close, loving relationships, and deep regard for one's neighbor. He believed the most important job a parent or carer can have is keeping children safe from psychological harm. It was very moving to learn that Rogers, as a young boy, due to illness, spent many lonely hours role-playing with his toys and a piano, but with parents who supported his creativity wholeheartedly. It was that personal experience as a child, with parents who loved him just

the way he was, that shaped the world of the *Neighborhood*. My father also spent many weeks at home due to chronic childhood asthma, finding comfort in the world of books, which he continued throughout his life, ironically something our older son used to shield himself from times of trauma during his school life.

Rogers was prolific because of his humble yet meaningful calling to see children just the way they are – a lifetime of effort to look at children and see them, to listen to them, really hear them, and to understand how to feel what they were feeling, not unlike the call to creativity Noller (1970) imagined and then put into practice through her creativity formula.

Roger's late wife, Joanne, wrote of Fred's love of the quote from the novella *The Little Prince* by Antoine de Saint-Exupéry: "L'essentiel est invisible pour les yeux" – "What is essential is invisible to the eye." We need to respect the hidden inner world of children as something valuable. I suspect Rogers may have agreed that there is richness and subtlety in the gentler inner world of a child's creativity to set the foundations for a courageous, confident, self-aware, and intrinsically motivated person, laid down in those uninhibited, uncensored, and untimed years of play in childhood.

Articulating what that living process is happening through the power of observation and the gentle ways we can walk beside children; never above, never below, simply beside them as they practice and discover being open to who they already are. Rogers wisdom shines through:

Every child is born with a unique endowment, which gives him an opportunity to make something entirely different from everybody else in the world...You see it when you watch children at their own play. There are no two mud pies the same. (Rogers, 1995, p.62)

To further unlock children's potential and ensure they thrive through a vision that is unified, creative, and active (Harris, 2023), it is also crucial to support them in a

transformative digital world that is built from the same principles of psychological safety that connect us to being human; nurturing the integrity of their imaginations, teaching them how to apply creative thinking skills, developing their emotional intelligence, and activating this process by helping them to be courageous, confident and intrinsically motivated to reach towards their full potential.

Connectivity in Real and Virtual Spaces

Given technology's role in driving educational change, Craft (2012) emphasized the growing need for creative pedagogy in virtual spaces. As a pioneer in the study of creativity and education in the digital age of the 21st Century, she explored the tension between "childhood at risk" and "childhood empowerment" (pp.176-177). Craft advocated transforming educational experiences and nurturing creativity by valuing connectivity in real and virtual spaces. She highlighted the balance between ensuring safety and "opening the firewalls," metaphorically speaking, to trust children's engagement in novelty and multiple identities within collective spaces. Craft (2011) envisioned a framework for collaborative work with young people in plural spaces, engaging in activities with multiple literacies to create diverse possibilities and outcomes. She described these as "high trust environments" where children collaborate to enhance collective intelligence and learn in an ethical, co-participative, and co-creative manner. While formal education prioritizes physical and psychological safety through reducing risk-taking, the digital age offers more opportunities for risk-taking and collaboration in virtual spaces. These spaces, such as gaming, online social networks, and interactions with robots, are characterized by openness and democracy but pose ethical ambiguities. Craft saw this as an opportunity for students to develop "collective wisdom" (bodydataspace, 2011).

Robinson (2022) contends that "Our lives have always been shaped by the tools we use. Tools extend our physical abilities...to do things that would be otherwise impossible.

They also extend our minds and enable us to think things that may otherwise be inconceivable (p.15).

Fostering Motivation Through Technology

Digital tools and games that reflect the *Leaf Pixel* principles of trust and psychological safety play a vital role in children's education, particularly because of their natural inclination to use technology for learning. Recognizing and valuing their affinity for digital platforms is crucial. Many children are attracted to gamified learning for its social interaction and the opportunity for three-dimensional imaginative play. The interactive and immersive nature of technology not only makes learning accessible and enjoyable but also supports the development of intrinsic motivation.

Acknowledging the significance of fostering this motivation through technology is essential for their future success. While not all gaming experiences, for example are educational, and concerns about engagement with technology persist, these motivations are worthy of consideration and trust in an evolving understanding, considering the pace at which technology influences education. An insightful observation from one of our sons highlighted how online socializing fosters friendships and allows individuals to gauge others' character through language, tone, and responses. In his words a way to "identify decent and respectful individuals." This virtual interaction fosters a unique form of social understanding. Such insights call for creative thinking to view situations from different perspectives (Torrance, 1999) and the application of emotional intelligence. Developing these skills from an early age leads to self-awareness and the ability to make unexpected connections, which is essential for nurturing creativity and understanding others through creative thinking in literal and virtual contexts.

Craft (2011) recognized that teachers and adults are not the only people who hold knowledge; our young people can also speak to their futures – supported by caring adults who

model this process. Rogers saw creativity as something that resides within the heart's desires of every child, as he looked at them through the TV like they were the only person in the world he was talking to. This act of empathy is powerfully human and a creative act of loving kindness of the purest form. They feel safe and confident. As Behr and Rydzewski (2021) believe: "Creative thinking may be in decline, it doesn't have to be. Like curiosity, children's creativity can be nurtured and sustained. It can be kept front and center in their lives. It just takes some help from creative adults." (p.47)

Synthesizing A Living Process

Leaf Pixel, as a living process, is built on a foundation of psychological safety. When I was thinking through the design and application of this model, it was initially for children, however on reflection, for psychological safety to be present in a learning environment for children, it is the adults, such as teachers who need to learn how to model, initiate and grow psychological safety by providing a safe learning environment, accepting students and their ideas unconditionally, modelling empathy and allowing psychological freedom. Children need an environment to build confidence and have opportunities to express themselves courageously without fear of judgment. Torrance and Safter (1999) expressed that those who control the environment, like teachers in schools or parents in homes, "can facilitate a process that is respectful of unusual alternatives produced, showing that unusual ideas can be useful and providing times for practice where there is no evaluation" (p.88).

If there is a solid foundation of psychological safety, personal creativity has more opportunity to grow, as witnessed through the growth of our children and my growth through the Master's degree. However, to continue to thrive and evolve in a learning environment that is embracing creative approaches to learning, teachers need to explicitly understand and know how to harness the 'ever presence' of creativity within themselves; "the emotional, nonrational or superrational, and motivational factors," (Torrance, 1999, p.88) along with

practical training in creative thinking to nurture both their creativity and those of their students. In short, teachers need to understand creativity as a living process that will continue to challenge their perceptions. This process is incredibly complex to implement, yet crucial to illuminating the possibility of teachers as catalysts. It may seem like an impossibility – it’s too complex – the system is too complex to change. That’s just the point, though. Embracing complexity with openness and possibility through a vision that is unified, creative, and active (Harris, 2023) begins with the fertility of the imagination.

When I have had those moments of not feeling open – deflated and compressed by impossibility, I have learned to elevate my thinking by returning to the imagination and to remember that creative thinking is designed to be complex, to challenge us to reach further, and continually expand knowing that already exists within us. It’s about deepening perspectives and purposefully looking for and being intrinsically motivated to find unique combinations previously unseen to us, as Prince (1970), co-founder of Synectics, wrote:

Creativity is an arbitrary harmony, an unexpected astonishment, a habitual revelation, a familiar surprise, a generous selfishness, a vital triviality, a disciplined freedom, an intoxicating steadiness, a repeated initiation, a difficult delight, a predictable gamble, an ephemeral solidity, a unifying difference, a demanding satisfier, a miraculous expectation, an accustomed amazement. (Prince, 1970, p.xiii.)

What an overwhelming choice of ways we can view creativity – it’s almost too much! But then, simultaneously, it holds an aliveness that can’t be ignored. Whenever I read Prince’s definition of creativity, I feel exhilarated by the possibility of creativity, and it reminds me to be playful with my ideas. Each statement could be asked as a question – “an intoxicating steadiness?” “a predictable gamble?” Typically, some people may try to rationalize and make sense of each of Prince’s statements, whereas others will see it as a playful opportunity to see where one of these strange combinations might take you. When we playfully question the

aliveness of creativity without judgement, we are entertaining what Puccio et al. (2011, p.64) called *Openness to Novelty*: being able to entertain ideas that at first seem outlandish and risky but are a vital part of taking a creative approach to solve a problem or to find fresh insights. By removing the restraints to your thinking, you actively seek new experiences and engage in a creative process.

Expanding Through the CPS Process and Affective Skills

Noller's (1979) definition of creative problem-solving pinpoints the importance of enhancing your creative process while moving through the steps of a problem-solving process – being aware of the relevance of the problem, how the problem concerns you personally and how you will adapt your thinking to solve it imaginatively:

By *creative*, we mean having an element of newness and being relevant at least to you, the one who creates the solution. By *problem*, we mean: any situation which presents a challenge, offers an opportunity, or is of concern to you. By *solving*, we mean devising ways to answer or to meet or satisfy the problem, adapting yourself to the situation or adapting the situation to yourself. Creative Problem Solving or CPS is a process, a method, a system for approaching a problem in an imaginative way resulting in effective action. (pp. 4-5)

Noller invites the individual to use the power of their imagination to frame effective action. I have deliberately used my imagination to expand my thinking by keeping open and looking at my past thinking in another way. An essential consideration in this state is checking whether you are in a dynamic balance between divergent or convergent thinking. Separating divergent and convergent thinking and flexibly moving between the two phases is a hallmark of the creative process, distinguishing creative thinking from everyday thinking. (Puccio et al., 2012, p.46). Larocca and Ibbotson (2020) likened the process of divergence

and convergence to the continuous cycle of breathing – along with periods of incubation in between:

Divergence is breathing through the nose, taking in all the ideas and possibilities.

Incubation is the space between the inhalation and exhalation...Convergence is breathing out through the mouth when ideas become channelled and directed. Long cycles of divergence, incubation and convergence are required to achieve the breakthroughs needed for creative enlightenment. (p.58)

I became stuck for a period of time writing up this project. I realized I was trying to converge my thinking prematurely along with unhelpful negative self-judgement – the opposite of using the creative thinking skill ‘Keep Open.’ There are three affective skills that umbrella the effectiveness of the whole CPS process: “Openness to Novelty”; being able to entertain ideas that at first seem outlandish and risky, “Tolerance for Ambiguity”; being able to deal with uncertainty and avoid leaping to conclusions, and “Tolerance for Complexity”; being able to stay open and persevere without being overwhelmed by large amounts of information, interrelated and complex issues, and competing perspectives (Puccio et al., 2011, p.64). When these three affective skills are not activated, particularly while trying to solve a problem, we can become rigid thinkers. Puccio et al. (2012) stated that if we perceive a creative problem-solving process only as primarily a cognitive process, we miss the opportunity to see the creative process as a synergy of thinking and emotion, as “your ability to create and to think clearly is deeply influenced by the affective states that support it” (p.102) – in my case tolerating ambiguity and complexity. I also needed to deliberately use another of Torrance’s leap skills – ‘be aware of emotions’ not as a block or interference with the process, which can be typically seen as unhelpful (Torrance & Safter, 1999) but to use the emotions I was feeling to move through and reach for breakthrough thinking (p.127).

However, I needed a structured strategy to focus, organize and guide my next thinking stage – I needed a “thinking tool” (Puccio et al., 2012).

In CRS 559, *Principles in Creative Problem Solving*, we learned the foundations of the Creative Problem-Solving Process (CPS) and how we might facilitate the four main steps in this method: clarify, ideate, develop, and implement to find solutions within our professional or personal contexts. Through each stage, we learned specific divergent and convergent tools that could help us build breakthrough thinking. (Firestien, 2020; Miller et al., 2011; Puccio et al., 2011). I was still diverging at this stage of the process of mapping my thinking, so I needed a tool that would continue to expand my imagination and “take me away from the world of my challenge” (Puccio et al., 2012). I had an opportunity to attend a production of Mozart’s last opera, *The Magic Flute* (Opera Australia, 2024), that night with friends. I allowed my imagination to travel freely and my senses to be alert to any insights that emerged while enjoying the performance. I lightly held a question in my mind; “How can this experience of seeing the opera take my thinking further?”

As I was getting ready to leave, a thinking tool I had enjoyed using in CRS 559 called *Forced Connections* (Gordon, 1961; Koestler, 1964; Isaksen et al., 1994) came to mind. Our cohort had a lot of fun using this tool together – and one I intuitively thought might help me with breakthrough thinking. Forced connections is a thinking tool that uses the mind’s natural ability to make associations between seemingly unrelated concepts to uncover new ideas, borrowing ideas from one context to solve a problem in another (Puccio et al., 2011, p.182). It is generally practiced by intentionally forcing or stimulating your mind to generate new ideas by trying to see a connection between a random object and the challenge you are addressing (Puccio et al., 2011). I experimented with finding, rather than forcing the connection between the experience of seeing the opera and where I was in my thinking at the time about teachers as transformational catalysts for change.

The CPS: Thinking Skills Model (2007), created by Puccio, Murdock and Mance, identifies specific thinking skills that people use when they engage in the CPS process. It's a conceptual framework that helps organize and improve your thinking for any context you wish to apply. You learn the steps of creative problem-solving while simultaneously learning *how* to think. However, CPS isn't only for nurturing thinking in problem-solving. It considers other thinking skills such as Diagnostic Thinking, Visionary Thinking, Strategic Thinking, Ideational Thinking, Evaluative Thinking, Contextual Thinking and Tactical Thinking. (Puccio et al., 2011, p.72)

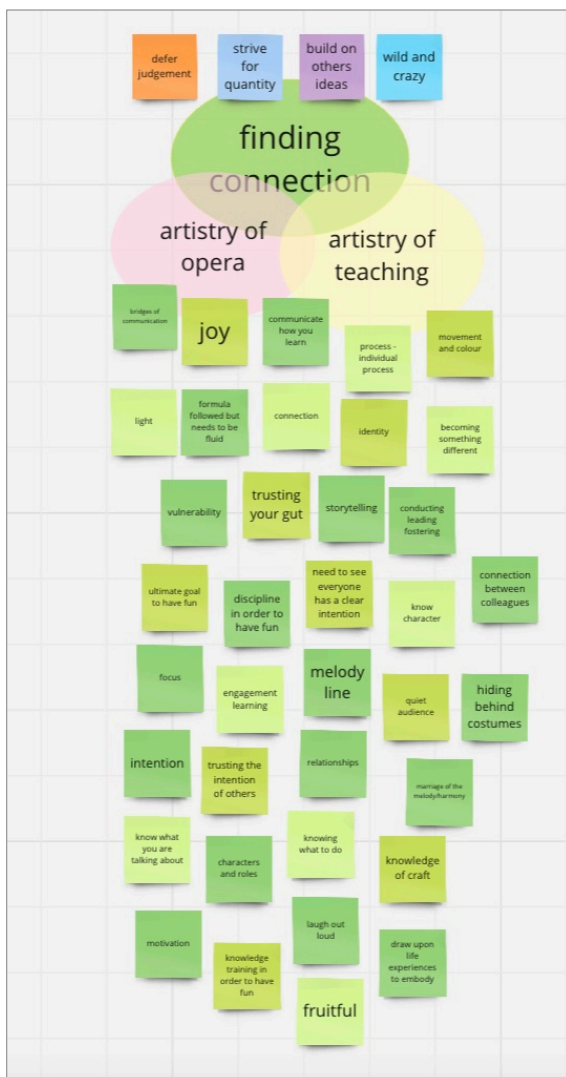
Returning to the night at the opera, I was consciously aware of practicing “Ideational Thinking” (Puccio et al., 2011). This skill is defined by Puccio et al. (2012) as “the ability to produce original mental images or thoughts in response to significant challenges” (p. 110). Ideational thinking also invites you to play with analogies and metaphors to look for patterns from one field to solve a problem in another. Opera is a form of theatre, and in the case of this production of *The Magic Flute*, it is aimed at being entertaining, humorous, joyful and dramatic. What if I deferred judgment for a while to see the education system as an operatic melodrama with the children as the protagonists for change, leading the teachers to join them in the revolution for change in education through playfulness, humour, drama— set in the VUCA world – volatile, uncertain, complex and ambiguous against a parallel universe that is playful, humorous, a “difficult delight” or a “predictable gamble (Prince, 1970). The drama moves between these two polar worlds – from the fear-based world of volatility, uncertainty, complexity and ambiguity to a visionary world led by a unified, creative and playful world that activates transformational change, blending the two worlds forever in a cataclysmic finale. Or not, as this is only one way to imaginatively and wildly make connections. Torrance and Safter (1999) saw Prince's (1970) definition as “symbolic of the synthesizing and

combinatory nature of creative thinking, especially of what is involved in the ‘aha’ or ‘eureka’ experience.” (p.156).

What might be all the ways I could reach breakthrough thinking by being deliberately playful, using the four ground rules for divergent thinking: defer judgment, strive for quantity, seek wild and unusual ideas and build on other ideas? I used brainwriting with a friend who played a principal role in the opera, bringing her into the act of playing with possibilities to enrich the process. her insights being in the production brought forth another way of looking at the connection between the art and practice of opera and the art and practice of teaching. See Figure 3 below.

Figure 3

Ideation Journey



After that conversation and the brainwriting session I made further connections listening to words of presenters such as Professor of Psychology, Vlad Glăveanu and Professor of Education, Pat Thomson speak at the *Leading Creative Schools* Conference in 2024 at Sydney University the following weekend. This inspired a provocation to teachers:

Dear Teachers,

With the students in your care, always trust your gut. Instinct first – then reach for understanding. Children are your greatest teachers. They are ever-present in their process of embracing difference, so why stop them? Sure, everyone needs to trust the intentions of others, even children, but get to know their true characters – whether they need a quiet audience or to hide behind a costume. Help kids feel connected through acts of love. Advocate for slow thinking with time, space and critical reflection.

Develop relationships with them that share differences of knowledge, as this will lead to authentic dialogues – not monologues. You need discipline and constraint in equal measures to creating space for the joy and freedom of learning – It's finding that balance where creativity comes alive. Use lightness, movement and colour as your partners so you can simply and kindly allow connection to grow.

I had an aha moment after writing this. Within the living process of *Inside Out Creativity*[™], moments of clarity propel thinking forward. This is not a time of decision-making or convergence – you are holding an idea in your mind, or sometimes interoceptively in your body that feels alive, which you feel compelled to act on. *Inside Out Creativity*[™] is becoming trained to recognize these moments of clarity beginning with a slow, emergent process, followed by moments that 'hit you' at an accelerated pace. If you can become aware of this process happening at other times, you could potentially predict patterns in your thinking and 'force' these moments of clarity, like I practiced to unlock my writer's block.

I witness this daily in the classrooms – you can see it in children’s body language when they are in either an emergent process or ready to accelerate. We need to allow for these different responses to learning and trust that they are precisely where they need to be instead of wanting them to reach a prescribed outcome under conditions where time, space and critical reflection are controlled. What if we viewed these individual responses to learning as a typical way of engaging? Vlad Glăveanu (Beghetto & Glăveanu, 2022) questions why in education we often look for what he described as “pedagogies of sameness” designing with an end in mind – an outcome. He wonders why we see differences in students’ performance because we think they misunderstood something or have made a mistake. What if we saw it as an indication of an individual creative process instead of a deficit in their learning?

Regarding my writer’s block earlier, I initially thought that my thinking slowed due to not knowing where to go. When, in fact, it was just where I needed to be. The slowing down was vital to reaching this point in my thinking. We need to give teachers as well as students that time to slow down so they have the time and space for critical reflection to reach one of those juncture points in their thinking, which is part of a continuous network of thought and action, or as Wesley Enoch, the celebrated Indigenous Australian Playwright playfully calls it the process of “synapse smashing.”

Kate Gaul, the director of Opera Australia’s 2024 production of *The Magic Flute*, emphasized that her vision aimed to provide an evening of entertainment centred on the “value of human happiness, the pursuit of knowledge obtained by means of reason, the evidence of the senses and shared endeavour, and ideals such as liberty, tolerance, freedom of expression, and our relationship to nature – all good things” (p.9). Conceptually, this creative process aims to produce something meaningful for the audience. However, the forces of creativity also occur between the players and between the players and the audience, so everyone becomes involved in the creative process Gaul describes.

Sensing the audience's excitement and anticipation, I was reminded of the affective skill that Puccio et al. (2012) believe supports *Ideational Thinking: Playfulness*—freely toying with ideas (Puccio et al., 2011). Playing can occur at any moment we choose. It does not require a setup, as the unpredictability of play leads to creative insights. Why do adults spend more time observing playfulness than participating in it? When an audience 'leans into' the story unfolding in front of them like we were in the audience that night, there is a yearning to be a part of it. I wonder, if asked to describe the feeling of being in that space, people would affirm this — or better still, what it might feel like if they were playing in that space with the performers in some way—would they be willing to embrace this playful perspective? Interestingly, opera was originally intended to be a participatory experience, not one where the audience remains silent and still. The apparent barrier here is social conditioning, but maybe it's more specifically a barrier to personal creative expression – the “lost connection to creativity.”

Noticing the smoke curling upwards through the stage lights, forming spirals as it ascended, I was reminded of the creative spiral of learning I had been playing with for the design of *Leaf Pixel*. The smoke's movement was continuous and dynamic, shifting from black to shades of grey to white as it rose through the powerful beams of light illuminating the dark stage. It created an illusion of the spiral looping back on itself. This visual metaphor reinforced my understanding that, although *Leaf Pixel's* learning journey comprises distinct stages, there is always the foundational point to which the learner returns to continue to grow in an environment and practice of psychological safety. The darkness while waiting for the stage to come alive made me think of the opposing forces and challenges in transforming education. Just like *The Magic Flute* is “a fairy tale of darkness and light and finding our way in the world” (Gaul, 2024), how can we find our way back to experiencing education as a “wonder-full” melodrama, a “unifying difference” (Prince, 1970) with twists and turns and

lightness and darkness. (Gaul, 2024). If understood as our guide, the creative process can lead us to a richer understanding of how we can lead with creativity by challenging the opposing forces it creates within us, putting them to work to actively transform ourselves and others.

TIM'izing Inside Out Creativity™

I have come to a point in this thought piece where I am curious to challenge myself to synthesize the connections between *Leaf Pixel* and *Inside Out Creativity™*. How can they work in partnership as a synthesized methodology towards catalysing change?

I wrote this earlier on in this project about *Inside Out Creativity™*:

This is not just a theoretical concept but a meaningful pathway to change the system from the ‘inside out’, with teachers acting as catalysts for change. The journey of *Inside Out Creativity™*, the term I use for the living process model I am designing, began as a personal quest undertaken on behalf of our children to creatively support their educational journeys. I then needed to teach it to them. However, I did not realize at the time that the living (and lived) process we were practicing could be beneficial to others until I began to apply the being, thinking, and doing skills and tools we learned in the Master of Science in Creativity and Change Leadership program, and to reflect on the kind of creative change leader I could become professionally in the future.

I realize now that what I mean by “creatively supporting their educational journeys” is part of the process of *Inside Out Creativity™*, for teachers and then their students.

I regularly support a student who is struggling to learn. Unfortunately, his home environment and family circumstances are not psychologically safe, so we try to create this for him when he comes to school. He needs medication for ADHD, and when he has taken this, he can focus better, but we try to find ways to creatively connect him to learning. It takes enormous energy from his learning guides, and the learning support team to help this child

when he is in our care. This is the kind of student that keeps you awake at night. You can see so much potential, but unless he feels safe, it is challenging to guide him. Unless we can find a way to unlock his potential, it will be difficult to help him learn. When I can apply creative thinking to scaffold his learning by reconnecting him to what he is interested in, fascinated by or drawn to in his environment, his curiosity is aroused and his learning can begin. It is as much about what is going on inside a child as it is about noticing what they are responding to in their environment. There are endless ways to help children connect to learning, if you see them from the inside out.

Recently, I was thinking about what had helped our son when he was not feeling psychologically safe at school – ironically, the opposite environment to this child, but affecting him similarly. We were his “safe harbour”, just like we are for this child at school. What could be the bridge to help him reconnect to a desire to learn? With our son, we needed to find something to regulate what he was feeling and heal the trauma he was experiencing without talking about it, as he was too young to articulate it – he just wanted to get away from the situation and flee. He has always loved to make things with his hands, like mini-books and games. He was great at creating characters from FIMO, a plasticine-like material you can bake in the oven. He made a whole series of tiny gnomes with detailed faces, hats and tools they carried. We found a ceramics teacher working with paper clay, which was the key to unlocking his talents and potential. He loved making sculptures, starting with the family dog and then the neighbor’s dog. Then, he moved on to imaginary characters from fantasy fiction stories he read or wrote. He majored in sculpture in his last two years of high school and created a world of fourteen pieces of sculpture called *City of Clay*, accompanied by an epic story centred on the journey of the protagonist Phos, a bringer of light.

We realized that leading with his strengths and what he loved to do was his path back to good mental health and, as he would say now, “a happy life.” As he spent more time

working with clay, he built his confidence and was able to return to a school environment. The first time I picked him up after working with his Ceramics teacher, he said working with the clay made him feel warm and relaxed. He said he lost his sense of time. He was genuinely fascinated to know he was experiencing a flow state (Csikszentmihalyi, 1990). What if we could create an environment where all children and teachers could experience more of this state of being in learning?

Victoria E. Waller, Ed.D., in her book *YES! Your Child Can – Creating Success for Children with Learning Differences* (2022) reflects:

Every child I have taught in over 40 years of working with children with differences was special. They were smart and interesting and had passions and strengths. The term to describe children with learning differences used to be mainly ‘learning disabilities.’ But I have always concentrated on children’s abilities, not their disabilities. ‘Learning differences’ acknowledges both the challenges *and* the strengths of these children who are bright and interesting but who may be failing in school. (pp xiii-xiv)

Waller’s wisdom has given me an aha moment. *Leaf Pixel* is a metaphor that shows teachers a frame of understanding about their students, not just children with learning differences. It is a narrative shared with teachers to know how, and what our children are intrinsically motivated to learn about right now, inclusive of technology that will define their futures. The macro thinking of transformative change synthesizes dynamic, traditional learning principles (the ‘leaf’) with the dynamic potential of technology (the ‘pixel’). As Craft (2011) believed, it is about creating high-trust environments where children collaborate to enhance collective intelligence and learn in an ethical, co-participative, and co-creative manner. Teachers trained to let go of the control of learning and courageously take an

interdisciplinary and transdisciplinary *attitude* to teaching, complement these high trust environments – foundational to practising *Inside Out Creativity*TM.

The *Leaf Pixel* narrative and the *Inside Out Creativity*TM living process share a strong foundation of psychological safety, driving the transformation process. *Inside Out Creativity*TM is the micro thinking, being and doing process that complements the big picture narrative spoken metaphorically through *Leaf Pixel*. Teachers orientate their understanding first in big picture thinking, to playfully see themselves as living *leaf pixels*, followed by learning how to use the intrapersonal and interpersonal micro process – *Inside Out Creativity*TM. While *Leaf Pixel* is the living narrative, *Inside Out Creativity*TM is the living process, each need each other to create a transformative experience for teachers. See Figure 4 below for a preliminary sketch of the *Leaf Pixel* narrative framing the methodology of *Inside Out Creativity*TM.

Figure 4

*A preliminary sketch of the Leaf Pixel narrative framing Inside Out Creativity*TM



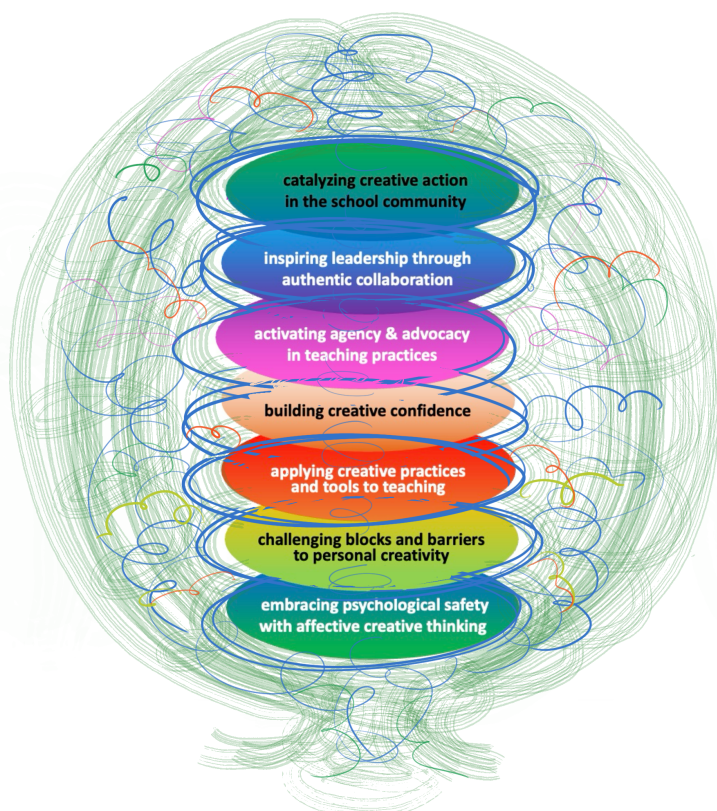
In CRS 530, I designed an independent study to work out how to define *Inside Out Creativity™* as a process that develops teachers' creativity. It was described as follows; *Inside Out Creativity™* is a practice-based process where learners play through the thinking, being and doing of creativity through the following stages:

- Stage 1: Embracing psychological safety with creative thinking
- Stage 2: Challenging blocks and barriers to personal creativity
- Stage 3 Applying creative practices and tools to teaching
- Stage 4 Building creative confidence towards;
- Stage 5 Activating creative agency & advocacy in teaching
- Stage 6 Inspiring leadership through authentic collaboration
- Stage 7 Catalyzing creative action in the school community

Figure 5 shows how learners move through the Stages of *Inside Out Creativity™*, noting that they begin in the foundation of embracing psychological safety, moving up towards catalysing creative action, returning to psychological safety in a continuous spiral.

Figure 5

The Seven Stages of Inside Out Creativity™

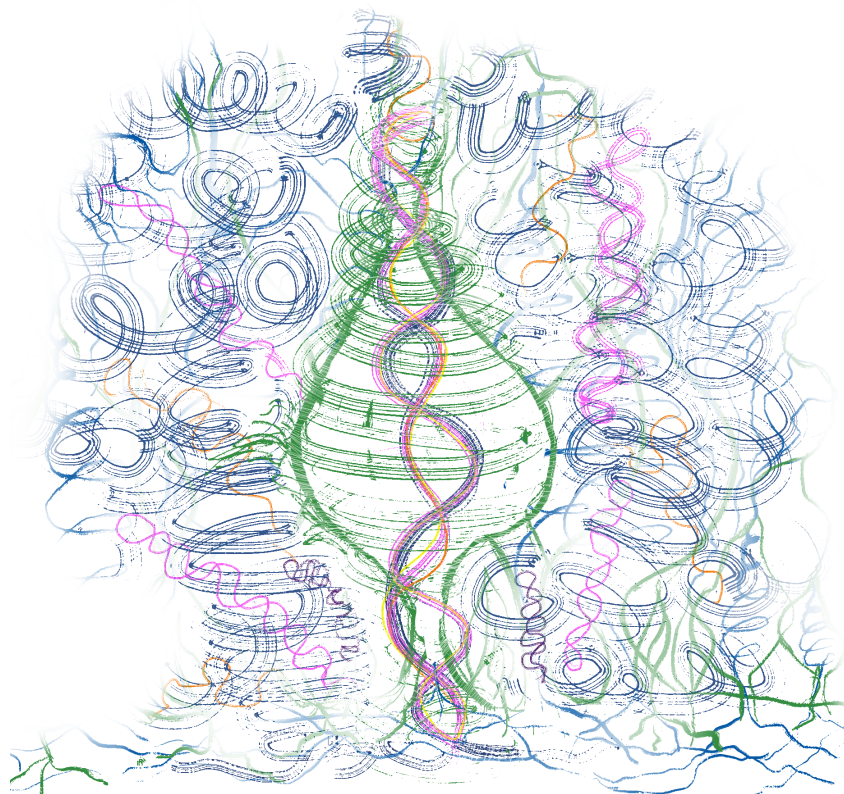


Building creative confidence (4) became the “bridge” between stages one, two and three and stages five, six and seven. This stage is for deliberate extended time, space, and critical reflection away from the process, and it is crucial for incubation time when practising *Inside Out Creativity*[™].

I had an extended time away from completing the Master’s degree, which felt uncertain and uncomfortable then. Crossing the “bridge of confidence” and taking that time away put me in a better place to continue building on this process. This was when I had some significant “aha” moments –I was designing a process for teachers that could also benefit children, and it would be called *Inside Out Creativity*[™]. Then, another “aha” moment that the process moves in a continuous loop from inside a person’s awareness to outside into their environment, which includes other people, the spaces they are learning in and the sensations and interactions in between. I visualized it moving as a three-dimensional double spiral, like a strand of DNA – an essential living process not unlike creativity (See Figure 6).

Figure 6

An imaginative sketch of the living process of Inside Out Creativity[™]



Inside Out Creativity[™] is a kind of palindrome if you think of it as a process happening within a person and simultaneously in the environment around them. It takes awareness to use it this way. The “aha” moment is also a palindrome. It was Noller and her colleagues (Parnes, Noller & Biondi, 1977) who playfully “pointed out that the word “aha” is spelled the same way backward and forward which has special significance. Forward suggests outward-oriented “ahas” related to the environment; backward suggests inward “ahas” related to ourselves.” (p.6) This influenced how they extended and articulated the understanding of the cognitive aspects of Osborn’s 1953 CPS Model working together with emotional aspects, which Osborn himself noticed practitioners using in the process he originally designed, which most CPS models have been developed from.

In Puccio et al.’s (2011) *CPS: Thinking Skills Model*, affective skills are deliberately woven throughout each stage of the CPS process. This is something to consider when designing the living process for *Inside Out Creativity*[™]. Which affective skills will complement each of the seven stages, or is there a more liberal process to choosing when a person wants to use a particular skill? The beauty of these skills is that there is no right way to use them.

On reflection, it also applies to the lived process we navigated to guide and co-facilitate our sons through their education. We needed to practice a lot when approaching the schools, as, at times, teachers and principals were not open to our creative suggestions that supported our sons’ strengths. We needed to practice psychological safety. It was challenging to be up against the misconception that we were not placed to co-create and genuinely work with them as a team to solve issues affecting their ability to engage with their learning or feel safe. This was not always the case, and we had remarkable exchanges of openness and knowledge-sharing throughout the journey. Along the way, everyone benefited and built confidence; we all became better at leading and being agents of change. On reflection, there

is no reason why *Inside Out Creativity*TM isn't useful for parents, in partnership with teachers leading the change.

Metacognition plays a crucial role, especially when fostering transformative creativity. Developing the concept of *Inside Out Creativity*TM will require the collective imagination, knowledge, and critical evaluation of a community of individuals passionate about transformative change in education—including but not limited to teachers, educational leaders, creativity practitioners, psychologists, futurists, technologists, and thought leaders.

*Inside Out Creativity*TM will resonate with some and challenge the belief systems of others, especially regarding personal creativity. Building it will require diverse expertise at various stages, forming a comprehensive ecosystem of creative thinkers and innovators to lead transformative change. These individuals will need to be courageous enough to explore both the known and unknown aspects of creativity within themselves first, before leading change to break down systemic misconceptions about creativity.

The stages of *Inside Out Creativity*TM do not only happen on a personal level. Each stage is happening as a collective that fosters psychological safety, overcoming obstacles to individual creativity, creative practices across organizations, boosting people's confidence to take initiative, and becoming advocates for change. Ultimately, *Inside Out Creativity*TM aims to inspire leadership through collaboration, sparking action across the whole community.

At this stage of the project, I am proposing that it begins with teachers, who, with the support of this community, have the potential to revolutionize both the methods and purposes of 21st-century teaching. This is encapsulated in the *Leaf Pixel* metaphor—to create a dynamic equilibrium between traditional learning principles and technological advancements that shape inspiring and relevant teaching practices. The goal is not to completely overhaul the education system, but rather to upwardly spiral imagination and knowledge, fostering acceptance of uncertainty. To achieve this, teachers require time and space for critical

reflection. Embracing the unknown propels creativity forward. Engaging in questioning and allowing oneself to immerse in the process is not a luxury; it is essential. It's about slowing down to accelerate understanding, treating complexity and ambiguity as catalysts for change, rather than perceiving them as fearful and threatening.

Telling the story through the *Leaf Pixel* metaphor and the living process of *Inside Out Creativity*[™] needs a delivery framework that can successfully and meaningfully guide learners through the content stages of the model.

In CRS 670 *Foundations in Teaching and Training Creativity*, we were introduced to a framework that fits this purpose: *The Torrance Incubation Model of Creative Teaching and Learning* (Keller-Mathers & Murdock, 2002), inspired and developed by E. Paul Torrance's (1979) original thinking of an instructional model for enhancing incubation. He designed this specifically as a model that would "enhance chances that incubation would occur." Torrance realized that few instructional methodologies of the time "gave attention to the problem of setting in motion and facilitating the incubation processes that seem to be necessary for seeing new connections; enlarging, enriching, and making more accurate one's image of the future; and making productive use of these insights in solving immediate and long-range future problems" (p.23). This gave me an insight that incubation happens across all seven stages of *Inside Out Creativity*[™] between embracing, challenging, applying, building, activating, inspiring and finally catalyzing experiences of the model.

Torrance refers to Arieti's (1976) description of creativity as "the magic synthesis"; a binding together of the primitive, irrational forces of the unconscious with the logical, rational, and cognitive mechanisms of the conscious mind." (1979, p. 24). This description of creativity along with May's (1975) description of the creative process as "suprarational" bringing the intellectual, volitional and emotional functions all into play together aptly describes what I envision would be a person's experience of *Inside Out Creativity*[™].

Torrance (1979) also references May's belief that "creative thinking represents the highest degree of emotional health and is the expression of normal people in the process of actualizing themselves." (p.24). *Inside Out Creativity*TM, as experienced by our family, writing this project and, more recently, overcoming professional burnout was crucial to maintaining emotional health. However, it takes awareness to know where you are in the creative process, which is facilitated by spending time in incubation, something that needs consideration when testing this with teachers. The question will be whether teachers can trust that leading a creative process takes time and comprises lengthy periods of reflection and accelerated insights that can lead to creative action. Torrance (1979) believed that there were a set of requirements for incubation to occur;

1. States of consciousness other than the logical, wakeful states activated at least for brief intermittent periods.
2. Intellectual, volitional and emotional functions brought into play.
3. Realistic encounters with problems, intense absorption, involvement, commitment and a heightened consciousness.
4. Opposite, contradictory or antithetical concepts, images or ideas confronted simultaneously.
5. Visual, kinesthetic, auditory and other sensory modes of thought. (p.25)

Torrance's thoughts and actions about creative thinking and learning were formulated and tested over many decades. Dr. Mary Murdock (1999), a doctoral student of E. Paul Torrance, spent over two decades at the International Center for Studies in Creativity, applying and further developing Torrance's classical model, describing the model as "TIM" and experts who use the model as "TIMers". Major contributors to Murdock's work, Dr. Susan Keller-Mathers and Dr. Cyndi Burnett (Burnett & Keller-Mathers, 2017) continue to utilize and expand the research and application of TIM.

True to Torrance's original model, Murdock and Keller-Mathers (2008) took forward Torrance's (1979) insight that teachers needed to continue to be aroused and motivated to keep thinking about their insights through "enhancing the chances that incubation and creative thinking of a high quality will occur" (p. 25). They brought the element of fun firmly into the TIM process, which was the first thing I noticed about TIM when our cohort was introduced to the model in the Master's degree. This is also an important consideration when teaching the content of *Inside Out Creativity*TM, as too much metacognition can weigh down opportunities for the joy of learning something that "tickles the imagination." (Torrance, 1990). Finding a way to teach and facilitate *Inside Out Creativity*TM that is playful, enriching, and fun will be vital.

Murdock and Keller-Mathers (2002) articulated Torrance's original thinking when using *The Torrance Incubation Model of Creative Teaching and Learning*, "for creative learning to occur, and in particular for creative thinking to continue, there must be some deliberate activities before, during and after instructional situations." (p.4)

Many teaching strategies do contain a before, during and after approach, Torrance's use of cognitive strategies in each of the three stages deliberately directed learning to;

1. Heightening Anticipation – warming up and preparing the learners to make connections between what they are learning and something meaningful in their lives.
2. Deepening Expectations – bringing the learners deeper into their learning by taking them beyond their curiosity to encounter new information and insights.
3. Extending the Learning – allowing one thing to lead to another and taking the learning beyond the moment to use it in other areas of thinking and doing.

Torrance believed that incubation in the third stage of the incubation model would not be possible without the first and second stages occurring. Suppose this method of teaching the content of *Inside Out Creativity*TM is used. In that case, incubation will occur between the

seven stages, which fits the logic of taking time to work methodically and/or freely depending on how learners' predisposition to incubation affects their learning process. For example, some may need extended time to not think about what they have learned, while others will use their incubation time to gather insights and reach "aha" moments. This was my preference when I deliberately took time away from my thinking and went to the opera.

The content of *Inside Out Creativity*TM is about creativity, but training people to understand practice and apply the content is really important. To do this, it will need to be deliberately taught creatively, be fun and motivate them to want to know more, without diminishing the content itself. In other words, use the three stages of the TIM model throughout each stage of *Inside Out Creativity*TM; heighten anticipation, deepen expectations and extend learning.

Specific creativity skills are used to facilitate each of the three stages of *The Torrance Incubation Model*. These are skills like the "leap skills" I have been using throughout this project, but are not limited to this set of skills. This is the magic of the TIM model that makes it unique, as you are using a method that can teach content about creativity, using specific creativity skills that enhance deeper understanding of, in the case of *Inside Out Creativity*TM – content about creativity. The TIM model is not limited to only being used this way. You can also use it to teach content that is not necessarily creative, however knowledge and application of a set of creativity skills, like Torrance's (1979) connects the learner to the content in ways that may be unexpected, to forge further connections and insights, making the experience of learning more engaging. Framing TIM around *Inside Out Creativity*TM strengthens the experience for learners by synthesizing creative content, creative process and creative application.

Recently, I attended a Creativity Conference filled with outstanding presentations. However, only one presentation in the series truly embraced creativity in its delivery, making

it the most memorable. They were aware of this, presenting scholarly researched viewpoints and strategies without undermining their message through the playful approach they adopted. They skilfully balanced humor with engaging content, a brilliant approach given the topic of AI in education—a field potent with hype, uncertainty and diverse opinions. They embodied the essence of being 'TIM'ers' – heightening our anticipation, deepening our expectations and memorably extending the learning. Their deliberate decision to infuse creativity into their presentation was precisely what made it unforgettable.

Table 7 below is an online interactive activity I designed as an independent study for teachers that uses the *The Torrance Incubation Model* (2008) to train in another of Torrance’s creative thinking skills, “Be Aware of Emotions” (1979). This activity could be adapted to use in stage one of *Inside Out Creativity*TM; embracing psychological safety with affective creative thinking. Self-reflection and comments from learners who tested the activity are included.

Table 7

Outline of Online Interactive TIM Activity

Torrance Incubation Model Interactive Presentation
<p>Presentation Title Training in affective creative thinking using “Be Aware of Emotions” as both a Creativity Content Goal and a Creativity Skill.</p>
<p>Creativity Content Goal Learners are using the affective creative thinking skill “Be Aware of Emotions” in the activities to understand how they can utilize this affective skill in their teaching practices.</p>
<p>Creativity Skill Learning how to embody the creative thinking skill: “Be Aware of Emotions” as a way to experience psychological safety and have awareness of emotions as skills.</p>
<p>Creativity Learning Outcome By the end of this interactive learning activity the learner will be able to;</p> <ol style="list-style-type: none"> 1. Understand why ‘being aware of emotions’ is a valuable affective creative thinking skill that can be implemented in any setting that supports social emotional learning. 2. State what the four associated factors of psychological safety are for themselves and begin to understand how they might implement them into their teaching and learning environment.

3. Understand how and when to apply this creative thinking skill in a safe, playful and humorous learning experience using the language of stories, analogies or metaphors.
4. Build knowledge on where they can apply this affective creative thinking skill using the ideation stage of the CPS process in their teaching and learning practice, both personally and professionally.

Audience

This activity is designed for teachers in a K-6 setting, however it could be easily modified for anyone in a teaching and learning setting where they are supporting the social emotional learning of people through cultivating affective creative thinking.

Length of Activity

Anticipated time of 15 minutes. As this is a self-directed, synchronous activity and will create very individual responses, the time spent learning will vary from learner to learner.

Materials List Access to a computer or tablet, notebook or online note-taking system.

HEIGHTEN ANTICIPATION STAGE

Warming up and preparing the learners to make connections between what they are learning and something meaningful in their lives.

Step 1:

Learner sees an evocative image of a word describing a single emotion: FEAR and are led to a prompt to an interactive learning experience.

Step 2:

Learner interacts with a series of images to make connections with how others take steps to be more aware of this emotion to better understand themselves and others.

DEEPENING EXPECTATIONS STAGE

Bring the learner deep into the learning, take them beyond their curiosity to encountering new information and insights

Step 3:

Learners make connections between the usefulness of emotions to applied creativity and being aware of emotions as an affective creative thinking skill.

Step 4:

Learners make connections between the creative thinking skill: being aware of emotions, breakthrough thinking and a-ha moments.

Step 5:

Learners are asked a question about how they might reach psychological states to activate emotions for 'inside' creative thinking.

Step 6:

Learners do an interactive activity to learn how to model the affective creative thinking skill experienced in the first slide, participating in a playful activity in a safe space to deepen their understanding of the four facets of psychological safety for themselves and their students.

EXTENDING THE LEARNING STAGE

Allow for one thing to lead to another, to take the learning beyond the moment and make meaning and use of it in other areas of your thinking and doing.

Step 7:

Learners follow on with another interactive activity to extend their learning, collaborating with colleagues by brainstorming with an open-ended creative question, to share ideas on how they might use what they have learned to help each other and their students, through the online discussion board.

ASSESSMENT

What are some of the ways you will know your learning outcomes were met?

1. The learners have participated in all of the interactive activities and are actively sharing their insights from the activities with their colleagues through the discussion board.

PERSONAL REFLECTIONS

What did you like about your presentation?

- I enjoyed creating a clear and well-designed presentation that was interactive for the learner.
- The language I used was appropriate for teachers who may not have had exposure to applied creativity and creative thinking skills such as ‘being aware of emotions.’
- The interactive activities were purposefully playful to help teachers see how to model it for young children. (Although it could be applied to adults as well!)
- Providing references gives them an opportunity to deepen their learning, as it’s important for teachers to be exposed to creative scholarly work.
- Adding an audible file and transcript gives accessibility to all learners.

What else did you like about it? (If you can, have someone else watch it and share here what that person(s) liked about it)

PARTICIPANT REFLECTIONS

I shared it with four colleagues who gave the following feedback;

- I love the use of the great unknown universe and the large word FEAR. Very good visual. Love the way you framed this with your idea of inside-out thinking. You pushed me to think outside the box. KINDNESS-yes!!!
- I loved the aesthetic and can imagine educators finding it very helpful. I especially liked the focus on activating inside creative thinking to lead to more outside thinking!
- Simple. Easy to understand and follow. Just enough to capture one’s attention. Another thing I really liked is that the exercises were way to affective engage. You had to think. But not think too much.

You can go to this link to participate:

<https://view.genial.ly/63b267c3783e69001205691d>

Below are screenshots from the activity.

Figure 7

Graphic Overview of the Online Interactive TIM Activity

FEAR
Move to safely on the next slide

Every person will experience FEARFUL emotions differently and find their way back to safety through different solutions. Click on each person to see the steps they take towards feeling safe.

Emotions can interfere with creativity. However they are equally as important in creative thinking as cognitive, rational factors, particularly in the Creative Problem Solving Process. (Gordon, 1961)

Torrance and Saifer (1999) believed that *being aware of emotions* is a **creative thinking skill** you can teach your students in the classroom to better understand each other and situations that happen everyday.

Being Aware of Emotions is an *affective* creative thinking skill as it happens on the 'inside' of our awareness development in a synergistic relationship with the 'outside' cognitive processes. (Parnes, Noller, & Biondi, 1977, p.6)

It is widely recognised and accepted that this *affective* creativity skill can *activate* breakthrough thinking or those a-ha moments. (Gordon et al (1961), Osborn (1956), Parnes, Noller, Biondi (1977), de Bono (1976))

How might we reach those psychological states to activate 'inside' creative thinking that lead to more breakthrough thinking 'outside', like problem-solving?

It begins in a state of play.

We can skillfully teach our students how to *befriend* an emotion like FEAR through playing with *analogies and stories* that lead to fluent, flexible, original thinking. (Williams, 1972)

Thinking that sparks their curiosity to courageously let their imagination PLAY with emotions in a safe learning place.

The more freedom you give yourself in the following activity, the more you will be able to model how to take the awareness of a natural emotion like FEAR and use it to skillfully and creatively find ways to express and discuss emotions with your students in a safe place.

Psychological Safety has four associated factors to model in your teaching and learning environment (Rogers, 1954)

- C** Create a safe place with no external evaluation
- A** Allow for psychological freedom to be creative
- M** Model understanding through empathy
- A** Accept the individual unconditionally

Think about these factors for yourself in the next activities.

Add to the interactive padlet – use your **word or image as inspiration** to share an analogy or story below your word about how you helped FEAR back to safety. Think of it as an adventure with possible problems, twists and turns or obstacles. Be humorous or even silly. It doesn't need to be logical or even make sense. Remember you are *playing in your imagination* to help FEAR back to safety.

In what ways can we help our students to become more aware of their emotions?
Use divergent thinking to: define judgement, strive for quantity, seek wild and unusual ideas and build on others' ideas!

Identifying Sensations and Experiential Reflection
We have a lot of tools at our disposal to help kids and adults open up their emotional awareness, including all that has been mentioned here. Lastly, a lot of my attention has been going to the recently emotional awareness alongside book therapy and

Practice empathy and caring for others
-hope for people to change and improve
-share light and happiness through fun words and actions

Connect emotions to the brain
The brain is a complex organ that is responsible for our thoughts, feelings, and actions. It is made up of billions of neurons that are constantly communicating with each other. This communication is what allows us to think, feel, and act. Understanding how the brain works can help us better understand our emotions and how they affect our behavior.

How did you go?
Did you practice psychological safety (CAMA) for yourself in the last two activities – writing or visualising your story, and brainstorming ideas to help your students be more aware of their emotions as a thinking skill?
Share your insights on the group discussion board.

KINDNESS
is the opposite of FEAR

Click on the headphone icon for the audible description of this presentation

Click on the page icon for a transcript of the audible presentation

Figure 8

FEAR – Move to safety on the next slide



Figure 9

Every person will experience FEARFUL emotions differently

Every person will experience FEARFUL emotions differently and find their way back to safety through different solutions. Click on each person to see the steps they take towards feeling safe.



Figure 10

I RECOGNISE my FEAR



Figure 11

I get CURIOUS about my FEAR



Figure 12

Share a word or image to describe the opposite of FEAR

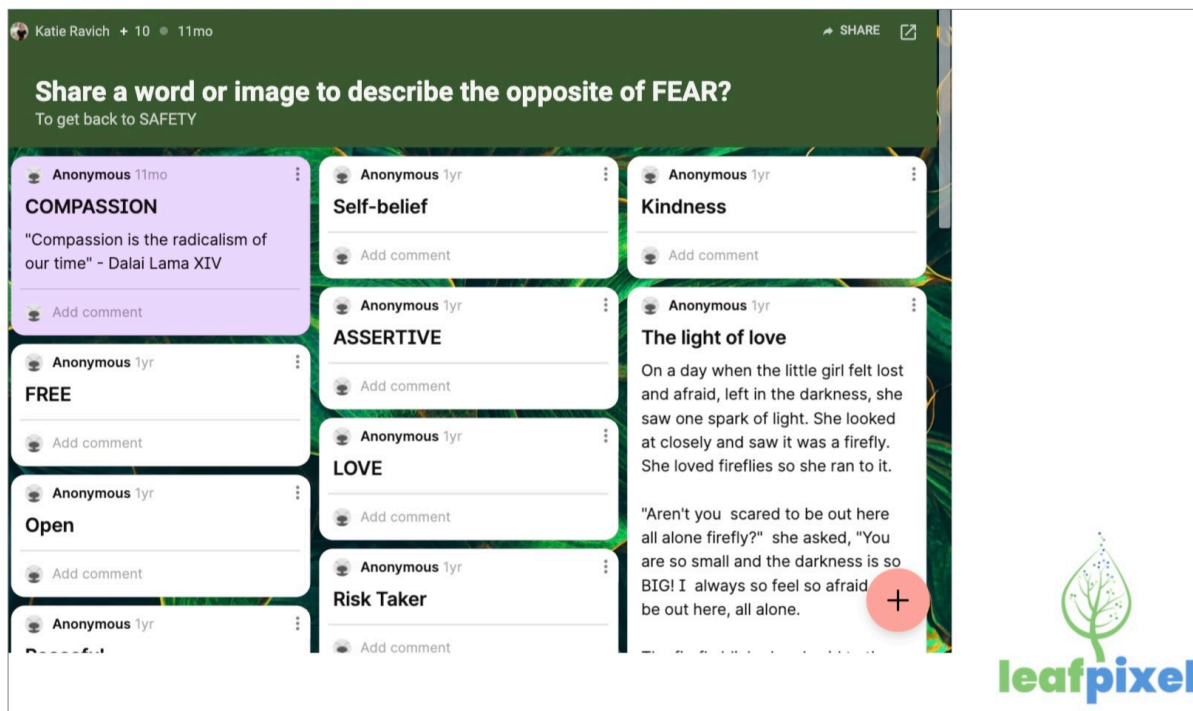


Figure 13

Emotions can interfere with creativity

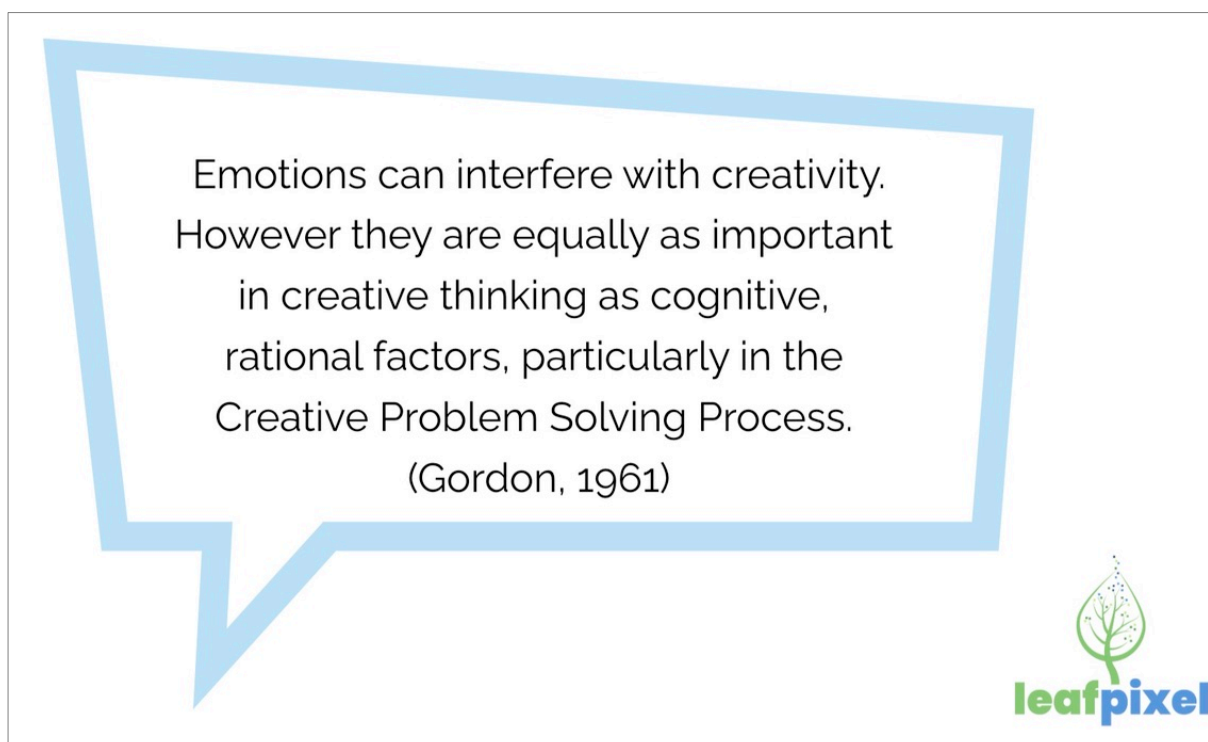


Figure 14

Being Aware of Emotions is a creative thinking skill

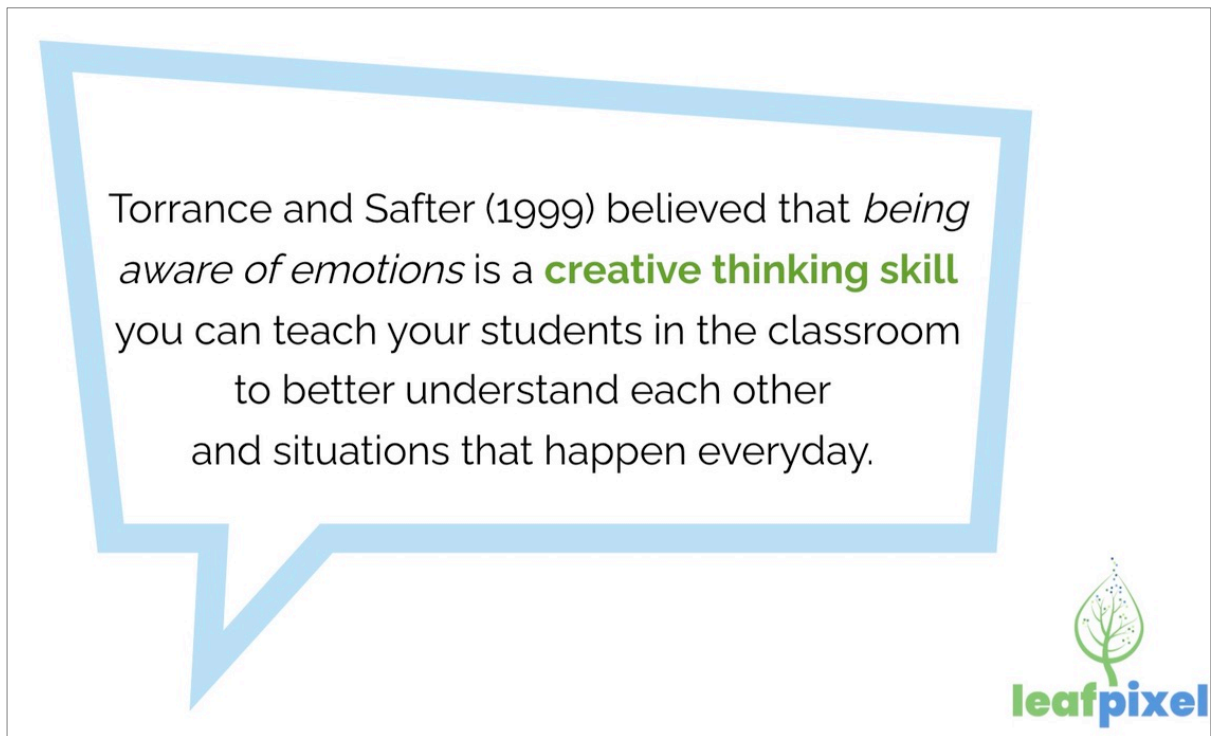


Figure 15

Being Aware of Emotions is an affective creative thinking skill

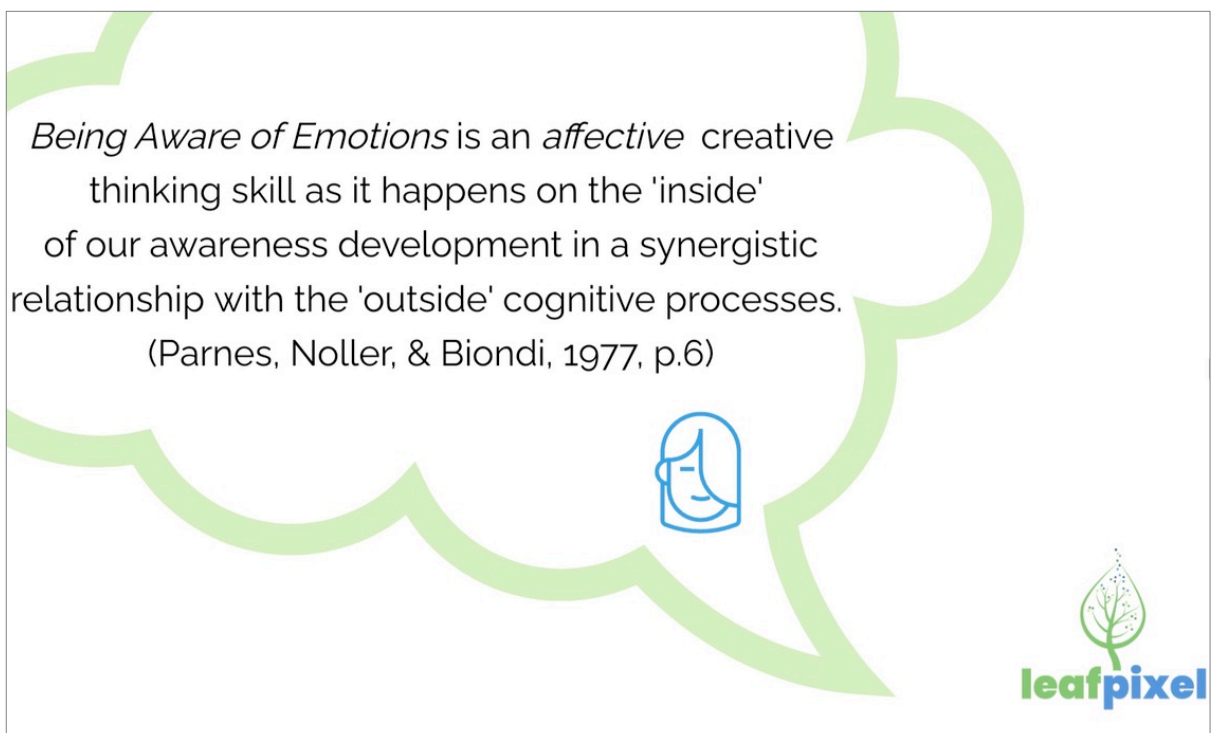


Figure 16

Breakthrough thinking and a-ha moments

It is widely recognised and accepted that this affective creativity skill can *activate* breakthrough thinking or those a-ha moments. (Gordon et al (1961), Osborn (1956), Parnes, Noller, Biondi (1977), de Bono (1976)



Figure 17

How might we reach those psychological states?

How might we reach those psychological states to activate 'inside' creative thinking that lead to more breakthrough thinking 'outside', like problem-solving?



Figure 18

It begins in a state of play

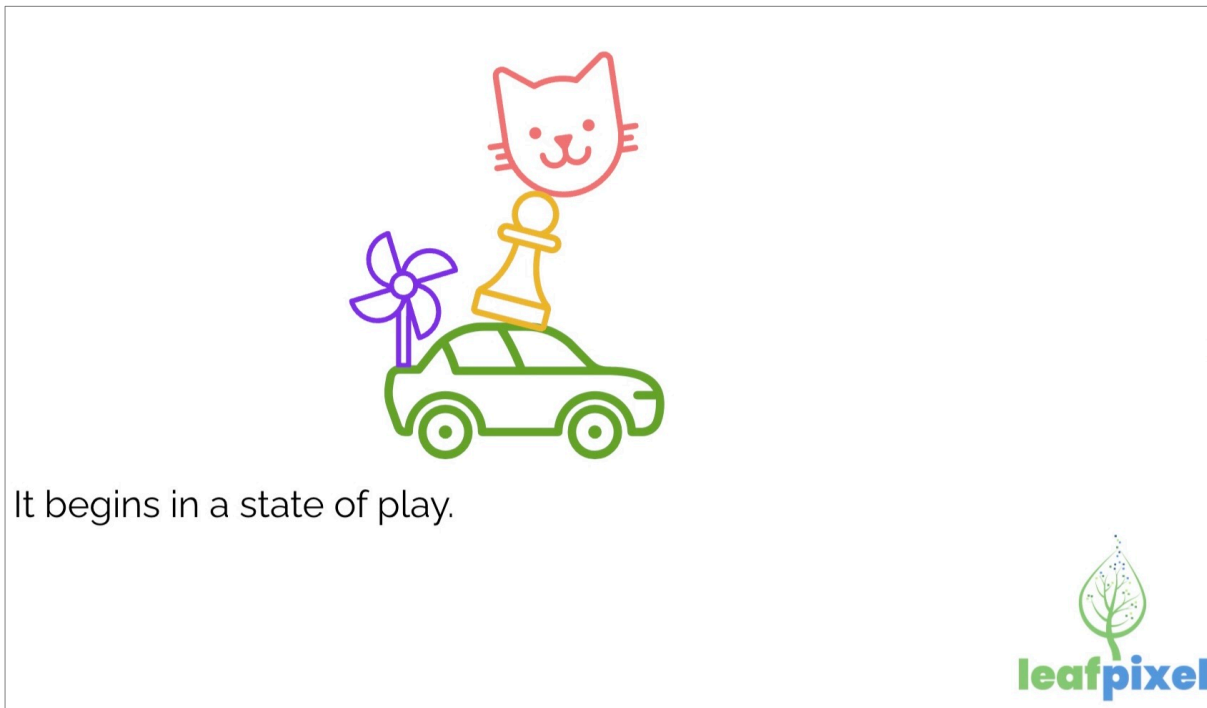


Figure 19

We can skillfully teach our students how to befriend an emotion like FEAR

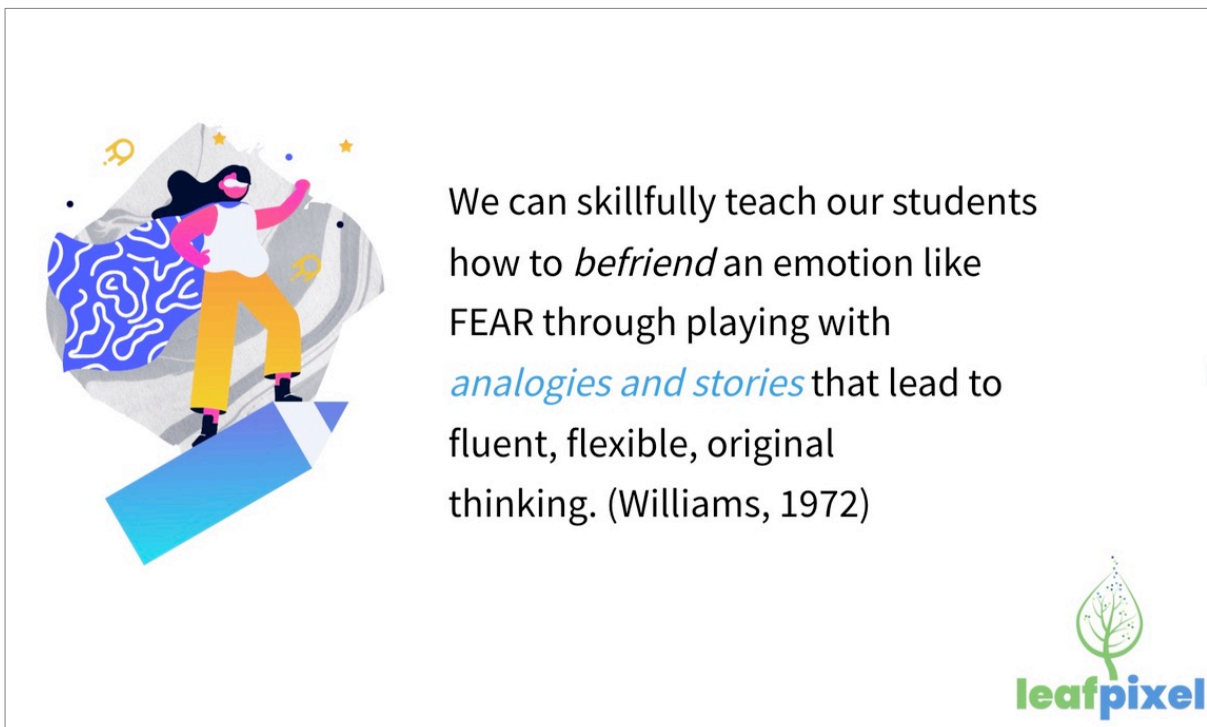



Figure 20

PLAY with emotions in a safe learning place



Thinking that sparks their curiosity to courageously let their imagination PLAY with emotions in a safe learning place.





Figure 21

Use FEAR skillfully and creatively



The more freedom you give yourself in the following activity, the more you will be able to model how to take the awareness of a natural emotion like FEAR and use it to skillfully and creatively find ways to express and discuss emotions with your students in a safe place.




Figure 22

CAMA – The four associated factors of psychological safety

Psychological Safety has four associated factors to model in your teaching and learning environment (Rogers, 1954)

- C Create** a safe place with no external evaluation
- A Allow** for psychological freedom to be creative
- M Model** understanding through empathy
- A Accept** the individual unconditionally

Think about these factors for yourself in the next activities.



Figure 23

Word and images as inspiration to help FEAR back to safety

Add to the interactive padlet – use your **word or image as inspiration** to share an analogy or story below your word about how you helped FEAR back to safety. Think of it as an adventure with possible problems, twists and turns or obstacles. Be humorous or even silly. It doesn't need to be logical or even make sense. Remember you are *playing in your imagination* to help FEAR back to safety.

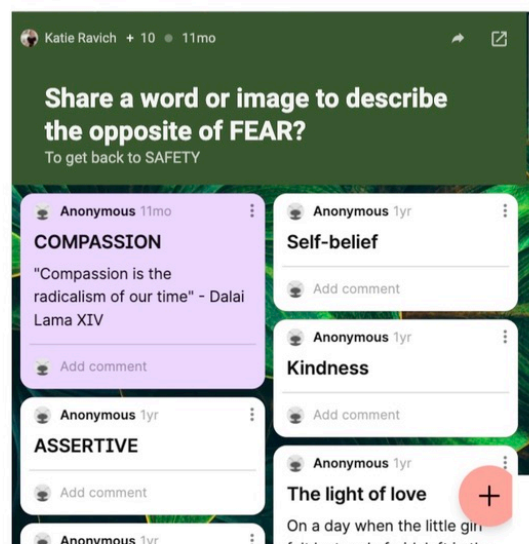
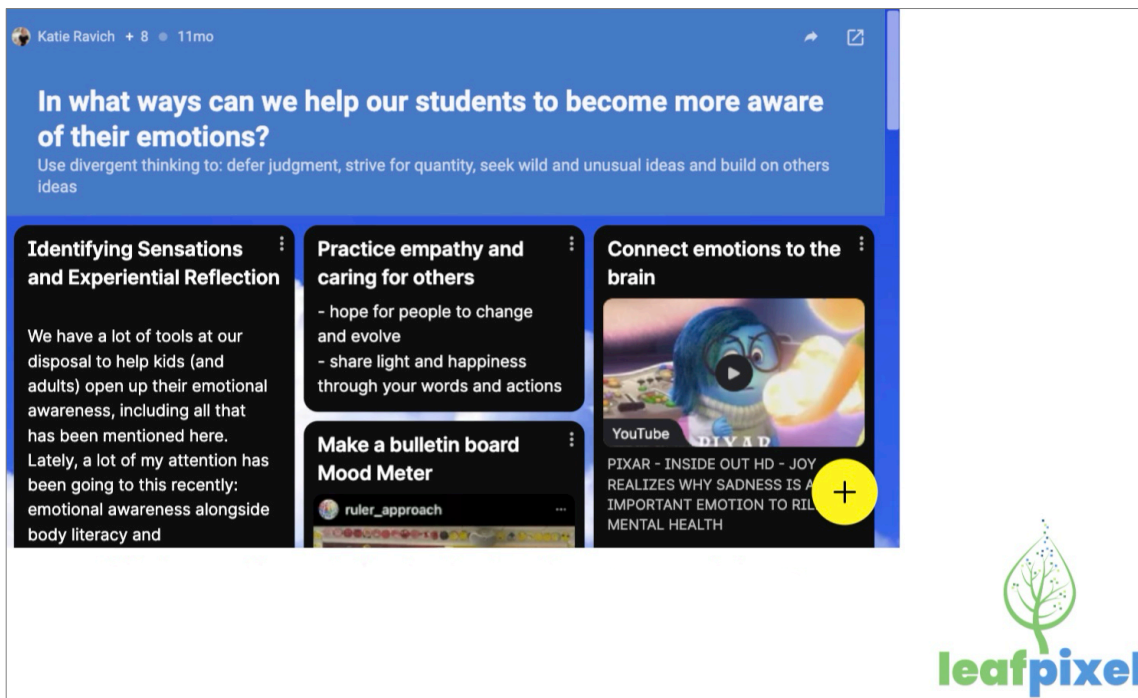


Figure 24

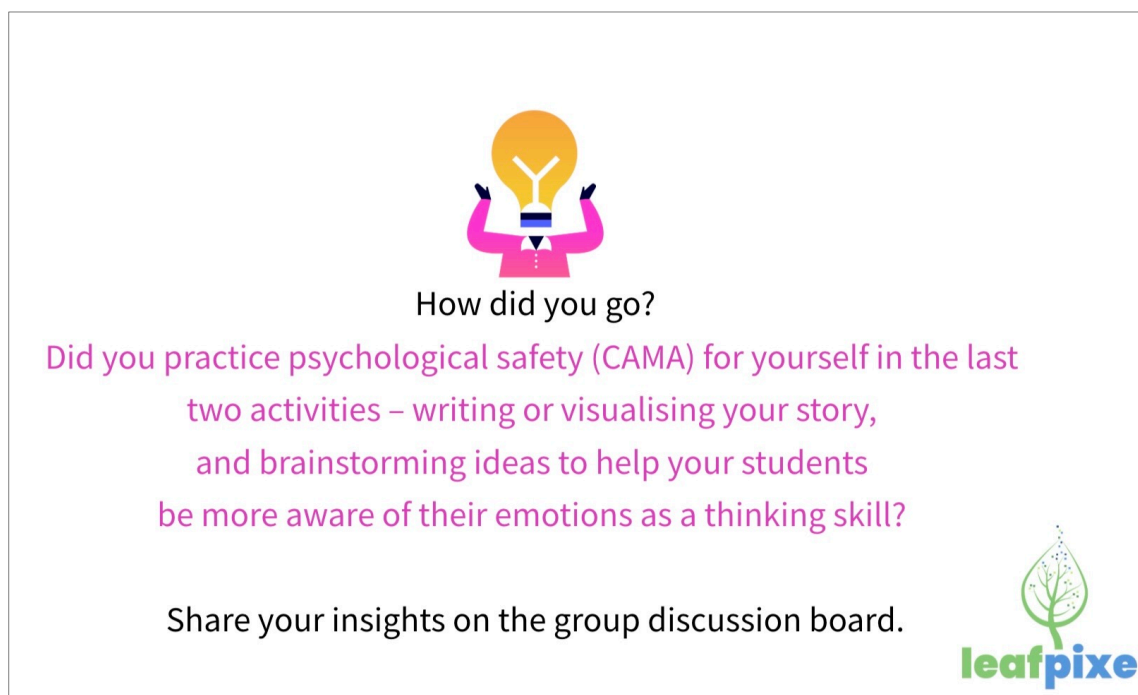
How to become more aware of their emotions?



The image shows a screenshot of a social media post by Katie Ravich, dated 11 months ago. The post title is "In what ways can we help our students to become more aware of their emotions?" and it includes a tip: "Use divergent thinking to: defer judgment, strive for quantity, seek wild and unusual ideas and build on others ideas". The post features three main sections: "Identifying Sensations and Experiential Reflection", "Practice empathy and caring for others", and "Connect emotions to the brain". The "Identifying Sensations" section discusses tools for helping kids and adults open up their emotional awareness. The "Practice empathy" section lists points like "hope for people to change and evolve" and "share light and happiness through your words and actions". The "Connect emotions to the brain" section includes a video thumbnail from YouTube titled "PIXAR - INSIDE OUT HD - JOY REALIZES WHY SADNESS IS AN IMPORTANT EMOTION TO RELIEVE MENTAL HEALTH". A yellow plus sign icon is visible in the bottom right corner of the post. The Leafpixel logo is in the bottom right corner of the overall image.

Figure 25

Did you practice psychological safety?



The image is a slide with a central illustration of a person in a pink suit holding a glowing yellow lightbulb. Below the illustration, the text reads: "How did you go? Did you practice psychological safety (CAMA) for yourself in the last two activities – writing or visualising your story, and brainstorming ideas to help your students be more aware of their emotions as a thinking skill? Share your insights on the group discussion board." The Leafpixel logo is in the bottom right corner of the slide.

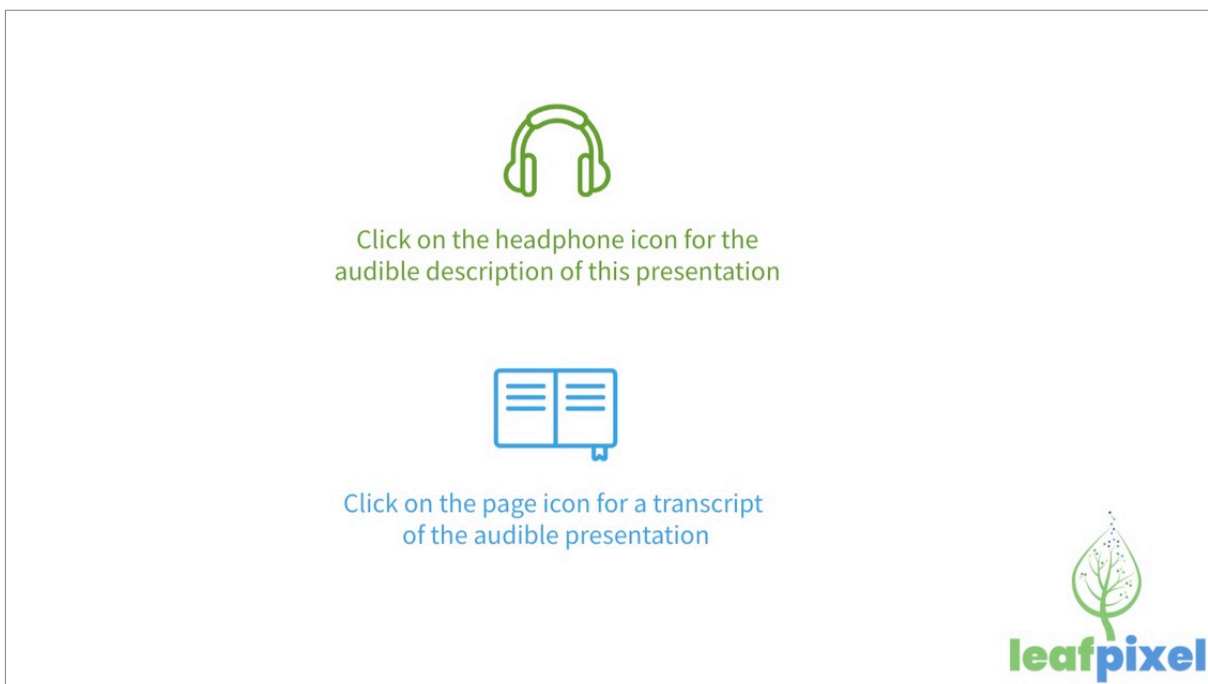
Figure 26

KINDNESS is the opposite of FEAR



Figure 27

Inclusive access— audible description and transcript



Clarifying Through Knowledge

In Stage Two: *Clarifying Through Knowledge*, I used the creative thinking skill, “Highlight the Essence” (Torrance & Safter, 1999), to clarify how I can be an effective and inspirational creative catalyst to guide teachers through the living process of *Inside Out Creativity*[™]. Torrance and Safter (1999) define “Highlight the Essence” as maintaining focus on what is crucial or essential” (p. 98). Utilizing this skill involves eliminating irrelevant information, refining ideas, and establishing priorities so that one idea becomes dominant (p. 99). In this context, to lead teachers effectively and creatively, I must lead with a clear and understandable vision supported by values that underpin this vision. This will be reflected in a leadership style that is authentic, clear and focused, with room for flexibility as I grow and change alongside the teachers I guide through this process. It is vital to continue seeking mentors throughout my professional practice to support my vision and foundational values to catalyze change in education successfully. Playfulness and flexibility are central to the process, as no ideas are fixed, and no solutions are permanent.

Leading Inside Out Creativity[™]

It is essential to manage this process within myself while leading others. In *CRS 635 Creativity and Change Leadership*, I wrote the following vision statement focused mainly on children leading change in an education system that is also willing to allow that change to happen. “I am a playful, creative change leader who energizes the creativity in children, their families, and teachers, cultivating and training for creativity in an education system that supports this process.”

However, I realized that the system comprises people who can collectively lead change if given the agency to use creativity as catalysts for change. I adapted this original version to a clearer vision that focuses on teacher creativity leading first, drawing from new insights writing this thought piece: “I am a playful and inspiring creative catalyst who

energizes the creativity in teachers by guiding them through a living process, *Inside Out Creativity*[™], recognizing themselves as the creative catalysts who can lead transformational change in education.”

This vision is built on a synthesized value statement, which applies to both myself and the teachers practiced at *Inside Out Creativity*[™]:

First, take courage and believe in your creativity. Only then can you cultivate this in others. Embrace creativity that already exists in every person, including yourself.

Show others how to make connections, be courageous and see growth from the “inside out,” activating unlimited possibilities for everyone.

Rollo May (1975), the existential psychologist and humanist, in his book *The Courage to Create*, states:

Courage is not a virtue or value among other personal values like love or fidelity. It is the foundation that underlies and gives reality to all other virtues and personal values. Without courage, our love pales into mere dependency. Without courage, our fidelity becomes conformism. (p.13)

Establishing the courage to think creatively, be creative, and act on one’s creativity takes enormous effort. Personal growth also involves taking risks and admitting there is more you don’t know than you do. Change is initiated by questioning assumptions, biases, blocks, and barriers to creativity. Further to this, May (1975) believed that courage is “necessary to make *being* and *becoming* possible (p.13). By asserting oneself, you are committing to a new reality. In the case of teachers, *Inside Out Creativity*[™] aims to give them the practice to do this with courage from a psychologically safe foundation. Courage that enhances your ability to relate to other people and invest your *self* in relationships that demand an increasing openness (p.17). May called this “social courage”, from which he believed “creative courage” could grow.

I had the privilege to work and play with two exceptional women in the Master's degree: Selma Dawani and Kathy Frazier. We dived headfirst into various creative projects that were meaningful to all of us, as we had a shared passion for fostering creativity in education. We took risks, were very playful, and faced challenges. Central to the success of our collaborations were authenticity, openness, and creative courage – we were fully committed to discovering new forms, symbols, and patterns to make the practice of teaching and learning more creative (May 1975, p.21). Through a living process mutually benefiting the individual and the collective, I realized we were practising *Inside Out Creativity*TM. If I highlight the essence of why our process worked so well, it would come down to the ability of each of us to catalyze each other's ideas in a way that kept our collective and individual creative process alive without changing the essence of who each of us was. It is more than just respect – it is honouring each other's creative process.

This is why I resonate more with being a *creative catalyst* than a change leader. I find joy in witnessing others lead their creative potential. As a creative catalyst, there is no leading; I stand beside. This reminds me of a family mantra we have used for years as a touchstone to our respect for each other; “Never above you, never below you, always beside you,” attributed to American journalist Walter Winchell. It's like Fred Rodger's statement about how we can respect children: “I like you just the way you are.”

As a *creative catalyst*, it is not my role to change or lead people. Using the metaphor of a chemical catalyst as something that brings about a chemical reaction without necessarily changing itself (Waddock & Waddell, 2021), I see a *creative catalyst* as someone who helps others to ‘see the dots’ but not necessarily connect them – that is part of their unique creative process. It is not meant to be easy to make the connections between seeing the dots and connecting them. This is where explicit training using creative thinking skills and knowing and understanding the creative problem-solving process brings *Inside Out Creativity*TM to life.

Emotional Intelligence – A Skill for Change

There is one other part of *Inside Out Creativity*[™] that will be crucial for teachers to catalyse change, particularly in schools, as it is ever present when nurturing children – using emotional intelligence as a skill for transformative change in ourselves and others.

Coming up with a creative insight or ah-ha moment is a cognitive act – but realizing its value, nurturing it, and following through calls on emotional competencies such as self-confidence, initiative, persistence, and the ability to persuade. The creative process demands a variety of self-regulation competencies to overcome the internal constraints imposed by emotions (Goleman, 1998). Emotions have been thought of in connection with creativity only as a block or interference with the process and in conflict with cognition, logic, or reason (Torrance & Safter, 1999; Lazarus, 1999). However, more recently, Ivcevic-Pringle (2023), a senior research scientist at the Yale Center for Emotional Intelligence (YCEI), defines emotional intelligence in the context of creative problem-solving as “our ability to think about emotions and use emotions to solve problems” guided by three principles that facilitate EQ: emotions fuel creativity, emotion skills help make creativity happen, and emotion skills build well-being. Further, the distinction is made between affective thinking skills and emotion thinking skills by connecting emotion to being a skill where emotion + skill synergizes the being, thinking and doing of the creative process through a complementary, learnable process within creative problem-solving.

This is underpinned by Mayer & Salovey’s (1997) definition of emotional intelligence as “the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in self and others.” Pringle indicates that these emotion skills are not easy to learn, as when we experience emotion, it’s tough to separate feeling what we are feeling and how we choose to deal with the emotion – they are very closely related. That’s why she calls it *emotion skills*, rather than just affective skills to

draw that connection together – that the feeling and what we do with the feeling are very intimately related. Hoffman et al., (2022). believe emotional intelligence and creativity can be taught in concert, each enhancing the other.

Emotion skills, like creativity skills, can be conceptualized as a clearly defined set of skills that can be taught and improved through training and practice (Brackett et al., 2019). To train effectively in using these emotion skills, Ivcevic-Pringle (2023) recommends three strategies: (1) have somebody teach you as we are not commonly taught – instead, we learn through observation, family, community and work environments, (2) practice by being intentional through perceiving, understanding, using and managing our emotions, and lastly (3) seek feedback by sharing experiences of emotion skills to make the unfamiliar familiar. There is more research to incorporate a clear understanding of Ivcevic-Pringle's (2023) emotion skills, and how they might be intrinsically connected with the *Inside Out Creativity*[™] process and personal creativity.

It is important to reflect back on Dr. Ruth Noller's (1970) classic formula $C=fa(K, I, E)$, that served as the foundational framework for this project – *Creativity* is a function of *Knowledge, Imagination and Evaluation*, reflecting an interpersonal *Attitude* toward the beneficial and positive use of Creativity (Isaksen et al., 2000). More specifically, the definition emphasizes the need for an interpersonal attitude that values the beneficial and positive applications of creativity. It is likely that preparing for resistance from teachers and educational leaders will be necessary, especially regarding the suggestion that leadership could be a dynamic, multi-layered catalytic process initiated from the "inside out." This concept contrasts with the traditional view of leadership, where one leads and others follow, as commonly defined by Northouse & Lee (2022): "Leadership is a process whereby an individual influences a group of individuals to achieve a common goal" (p. 6). The outcomes of adopting an *Inside Out Creativity*[™] approach and understanding how it can catalyze

change and become an explicit process needs further exploration with teachers to strengthen its vision, purpose and application in teaching and learning settings.

Grounding Through Evaluation

It will take time to develop interpersonal attitudes using *Inside Out Creativity*TM towards embedding creativity as beneficial and (mostly) a positive process (Noller, 1970). The process also needs to be experienced in context to understand how attitudes towards creativity can help or hinder how effectively teachers could catalyze transformational change. In this final stage: *Grounding Through Evaluation*, I used the creative thinking skill, “Put Your Ideas in Context” (Torrance & Safter, 1999), to ground my thinking through an evaluative process I began researching during CRS 625 *Current Issues in Creative Studies*. The research was centred around the question: *If teachers recognized themselves as creative catalysts, could this give them agency to lead transformational change in education?* I researched factors that could hinder the implementation of teacher creativity such as burnout, disincentives, blocks and barriers to creativity and teacher’s self-view of creativity.

Teacher Burnout – A Catalyst for Creative Action

An urgent worldwide reality in education is the most significant barrier to successfully catalyzing creativity in education – teacher burnout. Nothing can change until this is addressed. Many teachers worldwide feel undervalued, are experiencing burnout and are leaving their profession not because they want to – but because they can’t continue.

A recent 2023 report by the Black Dog Institute has found that 46.8% of Australian teachers are considering leaving their profession within the next 12 months, from a nationally representative survey of 4,000 teachers – an increase of 14% from 2021, with 76.9% of schools reporting teacher shortages. 70% of teachers have unmanageable workloads, consistently work overtime, and lack resources. The report also states that 60% of teachers’ absences were due to mental or emotional problems, with 52% of teachers reporting moderate to extremely severe symptoms of depression, compared to 12.1% in the general population. These are alarming statistics that show a desperate need to find a way to nurture

teachers and make long-term systemic changes so that they can get the support they need.

Whilst this statistical evidence does not explicitly blame burnout for why they are leaving the profession, when you understand the contributing factors to burnout, it is not difficult to see how these factors could relate directly to the daily role of our teachers not finding time to nurture themselves and others in their care, including their colleagues and their students.

Burnout, first coined by psychologist Herbert Freudenberger in 1975, has three components: emotional exhaustion – the fatigue that comes from caring too much; depersonalization – the depletion of empathy and compassion; and a decreased sense of accomplishment – feeling that nothing you do makes any difference. No one would disagree that the teaching profession isn't in crisis from these statistics, which, unfortunately, are echoed worldwide.

Creativity scholar Ronald A. Beghetto (2021) puts forth the argument that although crises can be deeply troubling and anxiety-provoking, they can also serve as essential catalysts for creative action and innovative outcomes and that during times of crisis, our typical forms of reasoning and action may no longer serve us. Teachers across the world are demanding at very least, better remuneration and the alleviation of administrative burdens, which are practically vital, but only as a starting point. Many teachers are unenthusiastic about attending well-being programs that don't serve to change their circumstances on a more foundational level. Kise (2023) states, "While many schools encourage and provide professional care for teachers on self-care, teachers push back on this as one more thing being added to their already overflowing responsibilities, with little attention to decreasing the sources of their stress." Adding to this everyday stress is the VUCA world we live in. This creates intense pressure on our teachers to prepare themselves and their learners for the volatile, uncertain, complex, and ambiguous conditions they will continue to face. Adding to this is the sense of profound uncertainty as we face the tipping point in the capabilities of digital technologies, like artificial intelligence (AI), in what is now called ubiquitously "the

future of work” (Patston et al., p.9, 2022). Beghetto (2021) reinforces this reality; “In the info-digital age, where there is an abundance of information sources, the uncertainty people experience likely will be further compounded by conflicting and opposing perspectives rendering the situation as seemingly unknowable and thereby not actionable-” (p.1)

Interestingly, Beghetto (2021) makes the point that if people believe they have no agency during a time of crisis, then they are likely to defer their actions to the guidance or direction of others, which could disempower an agentic response. Even though we have no choice but to learn to live with uncertainty, there is also a sense of urgency when facing a crisis to resolve it or the need for decisive action. Beghetto explains further that this creates a paradoxical experience between recognizing that decisive action is needed within a seemingly unknowable and profoundly uncertain situation. The choice here is to either give into the fear and anxiety or reach for creative and innovative solutions that could catalyze transformational change.

Seeing a crisis as a time to take creative action can move us forward and allow us to see new possibilities for any system to change. In the case of education systems, starting with restoring teachers’ ability to practice creative thinking, being and doing with *Inside Out Creativity* could be a good place to start. It needs time, it needs to be a gentle process, and advocates within the system need to be the creative catalysts that lead this change.

Biases, Blocks, Barriers, and Disincentives to Creativity

Davis and Woodward (2020) argue, “The challenge for anyone wishing to increase their personal creativeness is to understand, expect, and be ready to cope with barriers to creativity from the environment or from inside oneself.” (p.32)

Successfully implementing creativity in education largely depends on teachers’ beliefs about creativity (Berezki & Karpati, 2018). Patston et al. (2022) consider that teachers and students hold beliefs upheld by three key self-beliefs that contribute to their

overall creative identity, determine whether they will engage or avoid creative performance opportunities, sustain effort when challenged and ultimately demonstrate higher levels of creative achievement. The first is *creative self-concept* – general beliefs about one’s creative abilities - I am a creative person or the most common mental block to creativity; I am not creative. The key to unlocking this implicit self-belief will directly affect recognizing creativity in others (Patston et al., 2022). The second self-belief is *creative metacognition* – a combination of creative self-knowledge – knowing one’s creative strengths and limitations, both within a domain and as a general trait, and contextual knowledge – knowing when, where, how, and why to be creative (Kaufman & Beghetto, 2013, p. 160). The third self-belief is *creative self-efficacy* – how confident, skilful and knowledgeable a person feels about completing a task creatively.

A comprehensive literature review by Mullet and colleagues in 2016 showed a widespread belief among pre-service and in-service teachers that creativity mainly occurs within the arts: theatre, music, and the visual arts (Mullet et al., 2016). In contrast, a more recent study by Patston et al. (2018) involving 2485 teachers across seven countries aimed to measure and explore the prevalence of *Arts Bias*, a misrepresentation of it purely as an artistic talent (Glăveanu, 2014; Runco, 2007). This study found a lower-than-expected tendency towards an *Arts Bias* among the teachers surveyed, although it was still widely held across the general population. The study used self-reported creativity rather than performance-based measures of creativity, uncovering that teachers with higher levels of self-reported creativity were significantly less likely to endorse the *Arts Bias* than their counterparts with lower self-reported creativity levels. The authors concluded that recognizing and fostering self-reported creativity might be an essential strategy for embedding a more comprehensive understanding of creativity into educational systems, starting with these self-perception measures of creativity. This approach warrants further

research, consultation with creativity practitioners, and testing within schools to evaluate how I could incorporate self-reported creativity measures throughout the seven stages of *Inside Out Creativity*TM.

Patston et al. (2018) further highlight several issues that affect the potential for fostering creativity. In the classroom, teachers may inadvertently stifle creativity due to a negative bias towards the personality traits of creative students or their presentation. Additionally, there needs to be more clarity among some educators about the nature and definition of creativity. Many require a clearer understanding of creativity's developmental stages, such as Mini-c (personal insight), Little-c (everyday problem-solving), and Big-C (ground-breaking innovation), which is crucial for recognizing and nurturing creativity in students. Another common misunderstanding is between 'teaching creatively'—using imaginative methods to teach standard content—and 'teaching for creativity'—designing activities to enhance students' creative skills (Patston et al., 2022).

Teachers recognize the importance of creativity and believe it can be taught, nurtured and developed (Jeffrey & Craft, 2004; Patston et al., 2022). Cropley et al., 2019) reported teachers having a more open, differentiated and nuanced understanding of creativity; they no longer held inaccurate implicit beliefs, such as an *Arts Bias*, and as a group, they believed creativity is essential, unexceptional and universal.

The education system itself faces its own set of challenges. There needs to be more alignment between educational policy and practice regarding creativity. While policymakers advocate for greater emphasis on creativity, particularly in fields less likely to be affected by automation, such as those requiring a high level of creative intelligence (Frey & Osborne, 2017), teachers need more effective training to meet these demands. The shift towards more constructivist teaching methods, which focus on student-centred and individualized learning

plans, requires teachers to be adept at teaching both creatively and for creativity (Patston et al., 2022).

If we can give teachers the opportunity to understand that creativity is not only for those in the arts or with artistic talent through self-reported measurement of their creativity as a starting point, then we could potentially change the conversation about the usefulness and value of creativity both within themselves and in the classroom. We need to give teachers the lead role to explore their creativity within their shared expertise, as the more they develop their creativity – the less they associate creativity only with the arts, the more positive affect they will have on their students in their classrooms. Creativity drives us forward to unblock, break away from, and tune into our mental blocks.

Teachers as Catalysts for Change

Almost everyone remembers a teacher who was already a creative catalyst; they never asked you to change, and their creative attitudes and actions inspired you. They were open to new experiences, were willing to take risks to make learning unique, and were emotionally intelligent towards students and their colleagues. They were teachers you could always talk to, who never judged you and seemed to model who you wanted to be (Northouse & Lee, 2022, p.59). You felt valued. They were reachable – they transformed your thinking for the long term as their attitudes and actions stayed with you for a lifetime. They were willing to use creative thinking to keep open to possibilities and look at situations in other ways. It seemed a natural way for them to be. They were thinking, being and doing creativity, but how many of these exceptional teachers could catalyze their creativity to transform the system around them?

Teachers are already transformational leaders in their everyday actions, but more often than not, they aren't given the agency to be creative catalysts to transform the system. In most school settings, you are essentially either a follower or you become a leader through

experience, which sets up a hierarchical system within a school as a process where an individual influences a group of individuals to achieve a common goal (Northouse & Lee, 2022). This could limit possibilities for catalyzing change through combined individual efforts and shared aspirations, no matter what role you play. Waddock and Waddell (2021) liken a catalyzing process to people working with the mix of different efforts and activities that already exist and are geared towards significantly changing a system. To be a *creative* catalyst would require people in the system to use their creative potential to activate change, but first they need to become aware of this, with the exception of those exceptional teachers we all love and remember.

Inside Out Creativity[™] gives every teacher the potential to become exceptional.

SECTION FIVE: KEY LEARNINGS

When thinking about what project I would tackle I knew it would be something about catalysing change in education, as this is what gets me up every morning, and what I honestly think about every day. Since I joined the Master's degree three years ago, all of my research has centred around the theme of how I can activate change in education. It's what motivated me to find the community at the Center for Applied Imagination at Buffalo State University.

Creating a Thought Piece

I would never have envisioned I would be writing a thought piece to reveal how I think – that's not something you share with others, that's like opening up your personal journal and letting anyone read your deepest thoughts and be willing to be judged and maybe even ridiculed! It's indulgent. Who would want to hear it? I realized this was my harsh inner critic playing with my mind.

If you courageously share your lived experiences combined with the scholarly thoughts of others who inspire you, potentially you are inviting people to see how to activate the 'inside out' parts of themselves and become clearer on how they can change their lives and others in ways they may never have imagined. To give teachers the opportunity to become clear about how to activate their own *Inside Out Creativity*TM to accomplish this for themselves first – then for others would be a spectacular segue to this project.

The Power of Imagination

That is the power of the imagination – you have to think big, then go small and dig for the details. It's about looking more closely at the multi-faceted parts of your thinking through an applied creative process. You can tap into creativity at any given moment, it is literally all around us and simultaneously living inside us. This project has been about how we might synthesize the creative process, which is both elusive and deliberately applicable and useful.

Creativity has a heartbeat which you can strengthen through nurturing it skilfully and putting it to work, which is what this project has been about for me. It has been delightfully difficult.

I used creative courage to explore ideas that were not fully formed, that had gaps and dead ends in my thinking, on purpose. I practiced being messy in my thinking, I got stuck, I wanted to give up – that was uncomfortable. Then I celebrated the “aha” moments and took moments to breathe away from my thinking – that was strangely exhilarating rather than sending me into panic. That comes with practice. I was willing to challenge myself to go digging in the research, listening to other voices to open up fresh thinking. You need to trust that metacognition is going to be painful at times and utterly joyful at other points in the learning journey. These moments and sensations are central to the creative process and were threaded throughout the project. The beauty of insights is that every person will read this project differently and respond differently, depending on their lived experiences of education in particular, and more broadly, whether they want to change some aspect of their lives or others. This was why I took on the challenge of the Master’s degree – I wanted to catalyse change in something I was passionate about and could have impact on others. I could not have anticipated the impact it would have on me personally. It was not about finding a new career direction. It was about finding how I can lead others. In the end I discovered it is not about leading people, it is about changing myself so I could see others more clearly, so they could lead themselves. From that position you can catalyse change, as it is watching others unfold that catalyses this in yourself.

Personal Insights

As the project is a thought piece, I have purposefully woven insights throughout. Below in Table 8 are some personal insights that stood out for me during the writing process along with the passages of writing that support each insight.

Table 8*Personal Insights*

You can't reach insights and new thinking without the unconditional support of others
They were modelling how to keep open, take risks in our thinking, and embrace playfulness and humour (Torrance, 1999), before we knew these were applied creative thinking skills that would become embedded, practising them repeatedly throughout the program and in our lives.
Be courageous and never doubt yourself in the creative process
Pursuing this "something" to guide our sons and find the most optimal and inspiring path through their education required more than practical steps, such as changing school environments or finding counselling for them. I needed to look beyond accepted practices and be prepared to face harsh criticism, rejection, and ridicule from the status quo. I had to persist and endure, which required great courage and creativity (Torrance & Safter, 1999).
Creative problem solving is nurtured through believing in others and helping them to navigate change on their terms
This began a process of years as a family, sensing the gap between what his education expected of him and his self-concept of where he wanted to go next, on his terms, dignity intact.
Don't hurry solutions – let them emerge over time through reflection and incubation
However, whether it is novel is yet to be determined and, at this point, it is not necessary to know. It is relational as it points to finding solutions that could positively affect teaching and learning practices and not just more and better, but looking at the problem through alternative solutions that emerge over time (Torrance & Safter, 1999).
You can't make someone creative – You can create the environment for creativity to flourish
He never gave us the answers, just signposts for more questions. He never belittled us for our mistakes; he just listened. His way of teaching us about life was through analogies. As for practical advice, we learned through experimenting, taking risks, and making wrong turns.
Creativity is foundational to lifelong learning
We need to respect the hidden inner world of children as something valuable. I suspect Rogers may have agreed that there is richness and subtlety in the gentler inner world of a child's creativity to set the foundations for a courageous, confident, self-aware, and intrinsically motivated person, laid down in those uninhibited, uncensored, and untimed years of play in childhood.
Future thinking about creativity in education begins through trusting the child's voice
Craft (2011) recognized that teachers and adults are not the only people who hold knowledge; our young people can also speak to their futures – supported by caring adults who model this process.
Don't fear complexity – embrace it to reach for solutions through an applied creative process
When I have had those moments of not feeling open – deflated and compressed by impossibility, I have learned to elevate my thinking by returning to the imagination and to remember that creative thinking is designed to be complex, to challenge us to reach further, and continually expand knowing that already exists within us. It's about deepening perspectives and

purposefully looking for and being intrinsically motivated to find unique combinations previously unseen to us.

Clarity follows living in the mess of creativity, as long as you can tolerate it long enough to let it emerge

I had an “aha” moment after writing this. Within the living process of *Inside Out Creativity*TM, moments of clarity propel thinking forward. This is not a time of decision-making or convergence – you are holding an idea in your mind, or sometimes interoceptively in your body that feels alive, which you feel compelled to act on. *Inside Out Creativity*TM is becoming trained to recognize these moments of clarity beginning with a slow, emergent process, followed by moments that ‘hit you’ at an accelerated pace. If you can become aware of this process happening at other times, you could potentially predict patterns in your thinking and ‘force’ these moments of clarity, like I practiced to unlock my writer’s block.

Creativity needs time and space to grows in everyone no matter what age or circumstance

We need to give teachers as well as students that time to slow down so they have the time and space for critical reflection to reach one of those juncture points in their thinking, which is part of a continuous network of thought and action, or as Wesley Enoch, the celebrated Indigenous Australian Playwright playfully calls it the process of “synapse smashing.”

Creative Catalyst: Never above you, never below you, always beside you

This is why I resonate more with being a *creative catalyst* than a change leader. I find joy in witnessing others lead their creative potential. As a creative catalyst, there is no leading; I stand beside. This reminds me of a family mantra we have used for years as a touchstone to our respect for each other; “Never above you, never below you, always beside you,” attributed to American journalist Walter Winchell. It’s like Fred Rodger’s statement about how we can respect children: “I like you just the way you are.”

Inside Out CreativityTM is about honoring each other’s creative process

Through a living process mutually benefiting the individual and the collective, I realized we were practising *Inside Out Creativity*TM. If I highlight the essence of why our process worked so well, it would come down to the ability of each of us to catalyze each other’s ideas in a way that kept our collective and individual creative process alive without changing the essence of who each of us was. It is more than just respect – it is honoring each other’s creative process.

Crisis serves as an essential catalyst for creative action

Seeing a crisis as a time to take creative action can move us forward and allow us to see new possibilities for any system to change. In the case of education systems, starting with restoring teachers’ ability to practice creative thinking, being and doing with *Inside Out Creativity*TM could be a good place to start. It needs time, it needs to be a gentle process, and advocates within the system need to be the creative catalysts that lead this change.

Teachers recognize creativity can be taught, nurtured and developed

We need to give teachers the lead role to explore their creativity within their shared expertise, as the more they develop their creativity – the less they associate creativity only with the arts, the more positive affect they will have on their students in their classrooms. Creativity drives us forward to unblock, break away from, and tune into our mental blocks.

Teachers Can Be Catalysts for Change

Almost everyone remembers a teacher who was already a creative catalyst; they never asked you to change, and their creative attitudes and actions inspired you. They were open to new experiences, were willing to take risks to make learning unique, and were emotionally

intelligent towards students and their colleagues. They were teachers you could always talk to, who never judged you and seemed to model who you wanted to be. (Northouse & Lee, 2022, p.59).

Inside Out Creativity™ gives every teacher the potential to become exceptional

To be a creative catalyst would require people in the system to use their creative potential to activate change, but first they need to become aware of this, with the exception of those teachers we all remember. *Inside Out Creativity™* gives every teacher the potential to become exceptional.

This was a thought piece as the product of some thinking in a given period of time. If I inspired others to think about thinking in an area they are passionate about to create change in others, then I am heading in the right direction. If by reading this thought piece they have felt the same or similar passion for catalysing change and it has given them insights, “ahas” or moved their heart in some way then, in the metaphor of forming a band – “I am singing in my key and inviting other to harmonize with me.” If there are band members who want write the music with me, produce it and take it on the road, then I would have surpassed my expectations of this project. It is impossible to practice your personal creativity or catalyse change without doing it with others.

SECTION SIX: CONCLUSION

Metacognition is a Joyful Process

I realized during this process I love thinking about thinking. Writing a thought piece was a great decision, even though at first it was utterly overwhelming. I was also tackling a complex question about who could catalyse change in education with many aspects to the process that can't possibly be captured in one period of time. The thinking was supported by scholarly research and thoughts of others but ultimately it is up to individual interpretation. Most times when you ask people if they enjoy metacognition; thinking about thinking, they may be ok to do this for a while, but eventually they might be thinking; "Can you get to the point?" I say this with a sense of humor as I have felt this at times when writing up this process. What overrides my inner critic is the love I have for making connections, particularly if the purpose is to guide and inspire people to catalyse change in their lives.

Framing the project using Noller's (1970) creativity formula helped to expand, clarify and ground the reflective process of the project. Using Torrance's (1999) creative thinking skills pushed me to look deeper into my past research, and also be playfully present to my thinking and the creative process. Thinking about and visualizing how to create the content for the living process model *Inside Out Creativity*[™] could not have happened without learning about other creative process models for change and frameworks for teaching and learning we were introduced to in the Master's degree.

I have woven a personal journey through insights and research that I hope others may see reflected in their own lives. I have found my voice writing this project and built more skills to be a creative catalyst who will lead change in education. I hope that this thought piece resonates with our teachers and those people who have the power in education to help teachers also to become creative catalysts who will transform our education system.

Where To Now?

Time, space and reflection is needed before I decide what's next in my thinking. Glimpsing into the very near future I am attending the Creative Problem-Solving Institute (CPSI) Conference in June 2024 as a presenter and participant, which will give me reflection time to sit with this project, while being amongst the energy of people who are also passionate about fostering creativity in their lives and others. I will be practising remaining open to possibilities and make time for being playful. I will be using creative courage to flex my ideas, listening for new perspectives for this project, while also offering my listening, skills and insights to help others.

In other words, I will be modelling and practicing *Inside Out Creativity*TM.

The following quote from E. Paul Torrance, encapsulates what I am aspiring to achieve as I deepen and extend this project with the guidance and expertise of others in the creative community and most importantly with teachers:

Outstanding creative achievement always involves a step into the unknown — the bigger the breakthrough the achievement represents, the bigger the step into the unknown. Such achievements involve being different, testing the known limits, doing difficult tasks, making honest mistakes, and responding to challenge. All of these demand courage.” (Torrance, 1999).

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