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An Auto-ethnographic Study of Teaching Methods that Support Meaning Making in Middle School Art

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AN AUTO-ETHNOGRAPHIC STUDY OF
TEACHING METHODS THAT SUPPORT MEANING MAKING
IN MIDDLE SCHOOL ART

by

BRENDA S. MAJOR

Under the Direction of Dr. Kevin Hsieh

ABSTRACT

This thesis is an auto-ethnographic study of teaching methods proposed to be effective in helping develop thinking skills that advance meaning making in my middle school art classes. The study explored the use of *Visible Thinking Routines* (Ritchhart et al, 2011) and *Art Investigations* (Herz, 2010) in middle school art classes. Reflections and other field texts reveal the extent to which I found these methods effective in guiding students to develop higher order thinking skills that support more meaningful outcomes in art and could be beneficial in other areas of their lives.

INDEX WORDS: Guggenheim museum, Harvard Project Zero, Knowledge mining, Meaning making, Mindset, Middle school art, Thinking, Thinking routines

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BRENDA S. MAJOR

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Art Education

in the College of Arts and Sciences

Georgia State University

2014

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2014

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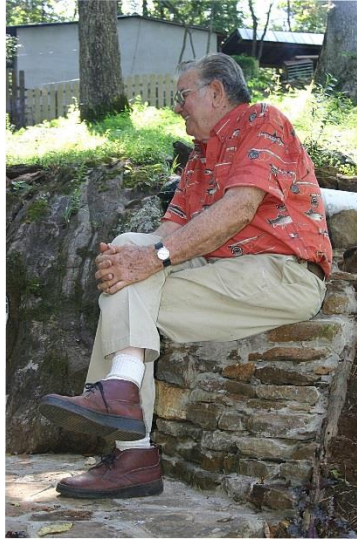
College of Arts and Sciences

Georgia State University

May 2014

DEDICATION

This thesis is dedicated to my father, Carlton Leon Spiva [1927-2010] who taught me to be curious about how things work, to persevere through challenges and to think for myself.



ACKNOWLEDGEMENTS

I would like to acknowledge my family; my husband, Gene, my daughters Courtney, Lindsey and Madison and my son, Clayton, for their patience and encouragement throughout the process of completing my program of study and this body of work. I would also like to acknowledge my division director at High Meadows School, Kate McElvaney and my co-teacher, Lynn Williams who provided tremendous moral support in my journey of self-discovery and personal growth. And finally, I would like to acknowledge Dr. Milbrandt, Dr. Davenport, and Dr. Hsieh, who deftly guided me through the perils and pitfalls of juggling career, family and higher education and along the way became treasured colleagues.

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1. INTRODUCTION

This thesis is an auto-ethnographic study of teaching methods proposed to be effective in helping develop thinking skills that advance meaning making in my middle school art classes. The study is part of an ongoing initiative to make learning in visual arts a more meaningful and beneficial educational experience for my students by continuously learning about methods and strategies that elevate the goals and outcomes of visual arts instruction. The study explored the use of *Visible Thinking Routines* (Ritchhart et al, 2011) and *Art Investigations* (Herz, 2010) in middle school art classes. Reflections and other field texts reveal the extent to which I found these methods effective in guiding students to develop higher order thinking skills that support more meaningful outcomes in art and could be beneficial in other areas of their lives. The literature review explains the two methods and covers research that supports the methods as aligned with the philosophy and culture of my school and appropriate for a constructivist learning environment. Such research deeply influences my own core beliefs about effective instruction and framed the criteria by which my personal judgment was made.

1.1. Background for the Study

In fifth grade, my daughter begged to be home schooled. She was struggling academically and had just taken a battery of tests to help determine the nature of her difficulty. At 10 years old, Courtney was an avid reader and had a natural intellectual curiosity about the world. The academic struggles that surfaced in second grade and continued to plague her efforts were perplexing. I perceived my daughter as intelligent and insightful, in part, because she was a precocious artist. From about two years old, making art was a routine part of Courtney's day. You can tell what children love by what they choose to do in their spare time. Courtney's free

time choice was always art. At the risk of sounding biased, I was impressed by her skilled and thoughtful artworks. Her work demonstrated a kind of *knowing* that is difficult to put into words.

Art was akin to a first language for Courtney. That battery of tests mentioned earlier revealed Courtney was dyslexic. Chronic fluid behind her eardrums as a toddler created a gap in verbal language acquisition and impacted phonological awareness. The doctor explained that Courtney had been hearing the world as if under water. I believe her early exploration of the world was all the more visual and tactile due to her muffled hearing. Art was accessible and engaging. When introduced to an art medium, Courtney explored it with focused intensity, first for its own sake; breaking it down to figure out its essential qualities, and then for purposes of creating or expressing something. This practice of figuring out how something works in order to employ its properties for your own ends came back to me years later as I observed my students and reflected on my teaching methods. Anderson and Milbrandt (2005) describe art as a language reliant on an understanding about symbolic form, relationships between forms and their expressive qualities. This was intelligent work that, in my mind, demonstrated advanced thinking. On this particular fall evening, Courtney clasped her hands and pleaded....”Don’t make me go back to school. It’s awful. I’m not smart enough and I can’t do anything right.” There was no way to convince Courtney that her abilities in art were evidence of knowledge and cognitive achievement. I tried to give specific examples to help her realize her strengths. I praised her ability to see and show light, her understanding of proportion and three dimensional space, her visual-spatial memory. Her reply resonated with me. “I’m good at art, but I’m not good at the stuff that matters. Nobody cares if you are good at art.”

Courtney was speaking the truth as she knew it. In the world outside her home, art was promoted as good for you much like it is good for you to play outdoors, eat healthy food and get

plenty of rest. It seemed unconnected to her struggle with math computation and writing. In the world outside her home, art was regarded as distinctly separate from academic achievement.

First hand experiences shape our view of the world and this experience impacted my parenting, my education as a teacher, and ultimately, my teaching philosophy. It was 2001 and I had just accepted a teaching position at High Meadows School. In sixth grade, I moved Courtney to High Meadows as well, initially drawn by the fact that it was project-based. I knew Courtney needed a different learning environment and I hoped a school that gave students multiple ways to demonstrate what they know and understand would be a good fit. She told me years later that High Meadows changed her life. She explained, “Sixth grade is the first time I felt understood.” Entering the tumultuous years of growth and change in 6th – 8th grade could have been a perilous time of dwindling academic interest and downward spiraling esteem for Courtney. Instead, an integrated curriculum connected her capabilities to other disciplines and ignited her love of learning anew. She understood math, science and social studies as she never had before. She found she was, after all, good at what matters. Because what matters is making sense of the world. And children need multiple ways to make that happen. This experience was the first of many reasons I discovered for supporting visual arts as a means of significant learning across disciplines.

1.1.1. Teaching and Learning at High Meadows School

My teaching environment for the last 13 years is intentionally counter-cultural. High Meadows School neither looks nor functions like most other schools. The campus is spread across 40 wooded acres, once a working farm in Roswell, Georgia. A full sized, hand painted tipi graces the upper meadow. Drama classes take place in a large converted barn. The soccer field beyond the lower meadow is flanked by a pony corral on the right and livestock pens on the left

for chickens and roosters, two sheep, a goat and four rabbits. A climbing wall, meditation labyrinth, and archery field lie beyond the animal pens. A tire swing, the signature symbol of High Meadows, hangs from a large oak at the edge of the lower meadow.

High Meadows School was established in 1973 and developed over the subsequent 40 years into a project-based instructional environment that trusts students to learn. It is grounded in the constructivist belief that children possess an intrinsic need to know that makes them naturally curious and eager to understand (Brooks & Brooks, 1999). At the heart of this philosophy is the belief that a meaningful education involves teaching students how to think rather than telling them what to think; a premise antithetical to traditional practices in education.

These progressive principles have never been the predominant philosophy in American education. From their inception in the 1830s, state systems of common or public schooling have primarily attempted to achieve cultural uniformity, not diversity, and to educate dutiful, not critical citizens.

(University of Vermont, 2002, the John Dewey Project, p.1)

In 2002, on the heels of my inaugural year, the school adopted the International Baccalaureate Primary Years Program (IB/PYP) for grades K-5. The mission, vision and philosophy of High Meadows fit naturally with the IB focus on “the development of the whole child encompassing social, physical, emotional, and cultural needs as well as academic welfare” (International Baccalaureate Organization [IBO] About Us: Accreditations and Memberships section, para. 1) and provided an established framework committed to structured, purposeful inquiry as the leading vehicle for learning. Within that structure, the arts as well as social, emotional and physical education are subject areas considered equally essential in the taught curriculum.

Significant to my teaching practice and this study, High Meadows chose not to adopt the International Baccalaureate Middle Years Program (IB/MYP) for grades 6-8. As students move from elementary to middle school, core values and beliefs are preserved, while the framing and delivery of art instruction changes.

In Kindergarten through 5th grade, art instruction is designed to connect to classroom units of study along a matching timeline. Units of study last approximately six weeks and students come to art class once a week for 45 minutes. The arts are systematically woven into the fabric of integrated lessons through collaborative planning and frequent communication with classroom teachers.

In grades 6-8, art classes become elective. Rather than year-long weekly classes, middle years students have two fifty minute periods in the middle of each day for mini-courses (electives) that meet daily for six weeks. Courses are offered in a range of disciplines. Within each discipline, different classes may be offered. Students are expected to take a variety of mini-courses during their three years in middle school. Students select from a menu of twelve or more choices per six week period with two requirements; PE and Study Skills are mandatory for each grade level in the fall.

The mini-course system is designed to offer a wide selection in order to keep classes small, more student directed and structured for in-depth exploration. Students who choose to take an art class can match their experience to personal interests and explore media beyond what is customary or possible in Kindergarten through 5th grade art classes. Art mini-courses, in striving to offer students the opportunity to deeply explore a specific art form, provides a format especially conducive to guiding students in personal meaning making through methods and formats that advance higher order thinking. For example, Drawing and Painting classes are

subdivided into six different classes offered throughout the year that allow students to delve more deeply into specific media as in Watercolor or Dry Media classes, specific techniques as in the Contemporary Methods in Drawing and Painting class, or subject matter as in the Drawing and Painting People. In addition to these classes, a variety of other art classes are offered including Printmaking, Sculpture, Ceramics, Fiber Arts, Books Arts and Copper Enameling.

Yet in the midst of rich opportunities, the structure of middle school mini-courses vs. the integrated model in K-5 positions art as incidental rather than essential to education. Beginning with middle school, parents, administrators and teachers increasingly discount the necessity of the arts to a good education. Parents exhibit a growing anxiety about the rigor of what they consider core academic classes such as math and science. They become more focused on their child's readiness for high school and less likely to believe that participation in the arts is essential to that goal. Student attitudes are prejudiced by the prevailing attitudes of the influential adults in their lives. As art is not required, fewer students routinely participate in art classes. When art becomes an elective, it is positioned as being less serious or less valuable to education. Both middle school parents and middle school teachers regard mini-courses as a break in the academic day. Students who choose an art mini-course often expect the course to be easy and fun. The change in perception increases the potential for underachievement. The cognitive and personal benefit of making art is overpowered by other pressures.

A sixth grade student I've known since Kindergarten walked into the art room on the opening day of a new course delighted to have received his first choice of electives. The next day, he had transferred out. His mother insisted he drop art and enroll in debate because she thought the skills he learned in debate would help him more in High School than an art class. While I do not dispute the benefit of other mini-courses, I believe that participation in the arts

serves, rather than detracts from, the goal of preparing for High School. I believe arts develop critical thinking skills and foster creative intelligence, increasingly understood as valuable across domains (Nussbaum (2013). I also believe that the arts can be a powerful way to process and respond to real world issues as well as explore our thoughts and feelings as human beings.

”Through the arts we learn to see what we had not noticed, feel what we had not felt, and to employ forms of thinking that are indigenous to the arts” (Eisner, 2002, p. 12). These core beliefs lead me to continuously evaluate my current teaching methods and seek more effective methods for achieving these outcomes.

Part of my teaching philosophy is the conviction that I have a responsibility to help students know themselves as learners and people capable of success beyond this particularly intimate and supportive environment. This sense of responsibility drives my research for specific artful teaching methods that are designed to enhance the ability to think, express, create and problem solve both within and beyond the art room. Making the benefits more apparent to students may even encourage greater participation in the arts and further service this goal.

Meaning making is a powerful way to process and respond to the complexities of growing up in a modern world. With the appropriate methods, I felt I could lead my students to connect and combine modes of treatment to create visual expression that evokes a synesthetic experience, what Eisner refers to as a “substantial cognitive accomplishment” (p 18). And I’m confident that this engagement in meaning making provides a platform for the development of thinking skills that transcend art making. “When teachers provide opportunities for students to engage in tasks that practice such skills and attitudes, they are providing opportunities for the development of mind.” (Eisner, 2002, p.13). The development of mind is one of education’s most valuable outcomes.

Beyond 8th grade, students have fewer opportunities to participate in arts classes. Many of the alumni who come back to High Meadows School for campus visits report taking one or two art classes during their high school career. Middle school turns out to be the last time they are provided the opportunity to explore meaningful art making. If there is a time when the personal and educational benefits of meaning making are to be realized through my teaching, it is during this critical stage when students have a foundation in the skills and knowledge of visual arts and are developmentally ready to respond and create works with personal significance.

1.2. Purpose of the Study

When I attended IB/PYP teacher training, the focus was teaching through inquiry. My colleagues and I learned a variety of cooperative teaching methods and strategies for collaborative learning. Yet, after teaching for twelve years I had amassed a huge library of Power Point presentations and slide shows. I used Power Point as a definitive content paper. Everything about the lesson was in there. Every relevant fact. Every relevant image. There was a measure of security in knowing I had everything in one place and could call it up at the click of a mouse. My lessons included provocations, questions and conversation that were, in my mind, consistent with methods of inquiry. Last year, following a formal observation, my division director asked if I always began my lessons with a Power Point presentation. I had to admit that I rarely introduced a lesson differently. Then she asked why? Which led me to reflect more deeply on some of the teaching practices that had become habit and to form my own essential questions. How do my methods support my goals for students? How do they fall short? Am I making progress toward becoming the kind of teacher I want to be? How am I equipping students for success through my teaching? Getting back to an understanding of teaching through inquiry was my first objective. I was reminded that teaching through inquiry does not mean asking questions

to which you already know the answer and that students do not always have to have background information to begin the process of discovery. There is nothing more engaging than finding your own burning questions and setting about to answer them.

Educators today are hyper-aware of how the world from which we draw the knowledge and experience to teach is not the world in which our students will use their knowledge and skills to live and work. In a rapidly changing world, there remains a consistent need to make sense of things. But this is not so new a dilemma.

My Dad was born in 1926. He was two and a half years old when the stock market crashed in 1929 and fifteen when Pearl Harbor was bombed in 1941. Growing up during The Great Depression and World War II defined his early years. And the world kept changing. He had babies in the 1950s and teenagers in the 1960s and witnessed first-hand the discovery of many things we now take for granted on a daily basis. The realities of unprecedented historical, economic and social events shaped his life.

My father was adaptive, resourceful and creative. Problem solving and thinking through the limitations and opportunities of the situation were a way of life for him. My siblings and I marveled aloud at his ability to repair anything, to which he replied, "If I can figure out how it works, I can figure out how to fix it." He learned to repair instead of replace. He learned to make informed substitutions and question how things could be done differently. His formal education ended at 7th grade, but he was one of the smartest men I've ever known. What set him apart was his ability to think critically. My Dad's philosophy became one of the core principles that guides my teaching. It is the basis for the structure of moving from teacher-led skill-based lessons to independent art making. It was reinforced by my experiences with my first born artist. It is my

mantra: Figuring out how things work is the key to problem solving and lays the foundation for creativity, imagination and original self-expression

The world my father lived in as an adult was miles apart from the world he knew as a child. As new things came along, he built on his prior knowledge, transferred and layered what he already knew with the latest innovation whether dealing with tools, automobile engines or electronics. He remained curious about how things worked, never stopped learning, and used what he learned to problem solve. As a lifelong learner, I strive to follow my father's example.

Making Thinking Visible by Ron Ritchart, Mark Church and Karin Morrison (2011) was offered as one of the choices for professional learning groups in May of 2012. Each summer, about five books are offered from which teachers and staff may choose. Upon our return to school in the fall, teachers meet in small groups for book discussions, then create a presentation to share the most salient points of their reading and discussion experience. I chose another book, but decided to read this one as well after discussing its merits with my division director. Upon reading, I associated thinking routines with a book from one of my graduate classes, *Looking at Art in the Classrooms, Art Investigations from the Guggenheim Museum*. (Herz, R. S. (2010). The methodologies proposed by each were similar in that they encouraged students to think deeply and respond authentically to art experiences.

I was curious about the extent to which *Visible Thinking Routines* and *Art Investigations* might help me frame engagement and advance the thinking skills conducive to meaning making. In the context of the visual arts, the making of meaning (meaning-making) is both an end in itself in the form of an artwork and a conduit in the acquisition of skills and knowledge beneficial across domains. A secondary aim was to mine the worth of these methods in growing the perception of visual arts as an intellectual endeavor beneficial to the education of the whole

child; a process that begins with helping students realize this for themselves through their own experience and achievement.

This study provided the opportunity to evaluate these methods and determine for myself whether they helped frame student engagement in the visual arts as an intellectual activity that matters and enhanced students' ability to create meaningful art in their own voice.

1.2.1. Research Questions

My research questions are:

1. To what extent do the teaching methods in *Visible Thinking Routines* and *Art Investigations*, in my opinion, engage students in higher order thinking and advance personal meaning making as they transition from teacher-led, skill-based art making to self-directed, concept-based artwork with personal meaning?
2. To what extent do these teaching methods, when combined with current methods (such as goal setting and self-evaluation) help me frame art-making as an intellectual endeavor and encourage a growth mindset?

In order to answer these questions, I reviewed related literature and articles and conducted auto-ethnographical reflections before and during a period of integrating the methodologies into my teaching practice.

2. REVIEW OF THE LITERATURE

As the subject of my study is myself and my teaching methods, it's important to acknowledge the internalized principles that guide my teaching. Education is a lifelong journey and I am not the same teacher today that I was ten years ago. Taking time to review the pedagogical thought that has most profoundly impacted my practice of teaching helps me know myself. It may also serve to refresh my practice during the study, helping me to focus anew on my beliefs as an educator and thus more purposefully align my study with my ideals.

Planning is a key part of teaching. An art lesson plan appears as a linear, sequential process on the written page with procedures stepped out neatly, first one thing, then the next. My real world experience when implementing the lesson, however, is naturally multi-dimensional and multi-disciplinary. I want every student to be as successful as possible. I strive to capture all I need to know and do in a well-considered plan. But the written plan doesn't address everything that will impact the success or failure of the lesson. All of my learning plays a part in being the kind of teacher of want to be.

I have chosen an auto-ethnographic approach for the unique fit of this Social Science research method with my purpose. Fetterman (1988) describes ethnography as the art and science of describing a group or culture. Autoethnography is simultaneously ethnographical (cultural) and autobiographical (personal) fulfilling the important mission of connecting the two (Chang, 2013). Autoethnographic inquiry uses autobiographical materials of the researcher as the primary data (Chang, 2013). Through up-close, personal experience and participation, ethnographic methods allow for the discovery of new personal analytic insights. And the findings from such an analysis of my teaching, can inform and guide instructional innovations and practices (Genzok, 2003). In my personal endeavor, an auto-ethnographic study involves the group(s) or culture(s)

to which I belong. In the largest sense, I am an educator. Within that group, I am specifically a visual arts teacher, and even more specifically, a visual arts teacher at High Meadows School. Therefore, my research involves a synthesis of my findings through each of these lenses as I have a triadic purpose in teaching; to educate the whole child through visual arts instruction within the culture of High Meadows School.

The literature reviewed for this study, which clarifies the autobiographical context of the experience includes research at the heart of my teaching philosophy and current practices, in addition to the books from which *Visible Thinking Routines* and *Art Investigations* originate. Early in my teaching career *In Search of Understanding: The Case for Constructivist Classrooms* by Brooks and Brooks (year?) and *Understanding by Design* by McTighe and Wiggins (year?) were part of my orientation to constructivist practices and teaching through inquiry. These books form the basis of my beliefs about how instruction should be planned and delivered as well as the relationship between teaching and learning in the classroom. *Art for Life* (2005) by Thomas Anderson and Melody Milbrandt, *The Arts and the Creation of Mind* by Elliott Eisner and *Aesthetics* by Boyd White are key references about what the arts teach as well as the value and power of meaning making to education. Resources from professional development at High Meadows School such *Yardsticks* by C. Wood and *Brain-Based Learning* by E. Jensen support my understanding of child development and the science of learning. Other research-based resources like *A Whole New Mind* by Daniel Pink and *Creative Intelligence* by Bruce Nussbaum referenced here have served to broaden and deepen my understanding of what students need to be successful today and the ways that attitudes about the value of the arts to education are often out of step with educating students for 21st century living. Additional resources support the methods chosen for this study as potentially viable vehicles for achieving my goals for students.

For teachers, as for any student, a valid measure of learning is whether we can use what we know (Wiggins & McTighe, 2005). That is, when what I have learned is evident in what I can do in my classroom to advance the value of art education for my students. This autoethnographic study will help me find out.

2.1. Making Meaning

“Why do people make art? Basically, we make art to make sense of things, to give meaning to our existence” (Anderson and Milbrandt, 2005, p. 139). Art is a part of the common human experience and essential to understanding the world. White (2009) describes art as the visual expression of sensory experience, perceived through feeling. As White explains, “Each perception provides an occasion for an act of meaning making; and meanings emerge because perceptions are built on the basis of comparisons to previous experience” (p. 3). As both artist and teacher, I have come to appreciate art as a powerful assistant in processing layer upon layer of experience in a lifelong journey of becoming. I believe the greatest benefits of art education go beyond the skills and knowledge of art making to helping us more deeply understand ourselves and the world in which we live. As an art teacher, I have the opportunity to facilitate the kind of deeper learning that is significant and personally relevant for my students.

I believe that good teachers connect with students in meaningful ways, guide them to a greater understanding of the world and themselves and teach them more than the content of their lessons (Eisner, 2002). I am inspired by the example of meaningful teachers in my own life experience; teachers who live within me and continue to work through me. I know the kind of teacher I want to be. I want to provide opportunities for my students to engage in art for its own sake within a structure that advances creativity and positions art making as an intellectual activity. I want to guide my students to connect with real-world issues and devise the means to

deal with these issue creatively (Anderson and Milbrandt, 2005). I am on an endless quest for teaching methods that facilitate authentic meaning making in order to better achieve these teaching goals. According to Anderson and Milbrandt (2005), “Direct training in this process is impossible, but a conscientious teacher can devise motivations and activities as well as provide guidance to help students develop the skills, attitudes and patterns of work that allow them to express themselves meaningfully in art and life” (p. 152). The methods presented in *Visible Thinking Routines* and *Artful Investigations* in combination with other experience-tested methods currently practiced showed promised as a means to that end.

2.1.1. Thinking Skills for Life Long Learning

Eisner (2002) believes that the unique quality of learning through the arts is integral to achieving the greater goals of education. “The outcomes of education can thus be said to diversify and deepen the kinds of meanings people know how to construct and provide them with the appetite and ability to shift frames” (p.45). Education is about all the essential elements that make an informed, enriched, productive, satisfying life possible (Starko, 1995).

Another timely societal purpose achieved through art education includes the development of creative thinking and problem solving skills. Research regarding creativity has influenced educational practices from classroom to administration to overall school environments (Torrance, 1983 as cited by Feith, 2000, April). Educators continue to emphasize the importance of favorable conditions for developing students’ creative potential. Daniel Pink, author of *A Whole New Mind* (2005), asserts that creativity is one of the single most important skills students asserting that education has an affirmative obligation be aligned with the real world. 21st Century students need to learn to put ideas together in fresh, new ways to meet challenges we have yet to imagine. And the arts are uniquely positioned to help students develop creative thinking skills

(Eisner, 2002). Teaching the making of meaning is one way to provide students with the opportunity to develop creative intelligence. And the methods proposed for this study have the potential to advance creative output.

Everybody has creative capacity...everybody. The challenge is to know how to cultivate them. Children have immense natural capacities of innovation, of creative thinking, of alternative ways of seeing. They are deeply personal capacities, and great teaching has always been there to model and to bring them out.

Sir Ken Robinson on the “Power of the Imaginative Mind (Part One)”

Release Date: 5/28/08 (Edutopia, <http://www.edutopia.org/sir-ken-robinson-creativity-part-one-video>, transcript, para. 9)

High Meadows is a progressive school with a constructivist orientation. Constructivism is the model that encourages students to independently seek interests and problems; to generate multiple hypotheses; to focus on broad ideas rather than specific facts; and to think about thinking: conditions essential to developing creative potential (Starko, 1995). Constructivism is meaning making by definition. According to Anderson and Milbrandt (2005), there are specific characteristics of teaching that support construction of meaning through connections to the real world, including:

- (1) Involving students in higher levels of cognition or thinking
- (2) Leading students in substantial conversation about a topic
- (3) Promoting social support for peers' achievement and
- (4) Developing themes for teaching that support integrated learning beyond the classroom. (p. 25)

Exploring the making of meaning in visual arts is a constructivist process as it provides the child-centered means to make sense of the world through responding and creating in art. Teaching methods with a constructivist orientation, such as *Visible Thinking Routines* and *Art Investigations*, can help students connect to the real world, take responsibility for their own learning, become independent thinkers, inquirers and problem-solvers and develop a holistic understanding of larger concepts.

2.1.2. The Opportunity for Meaning Making in Middle School Art

Responding and creating are two components with developmentally appropriate benchmarks within the IB framework for art instruction for Kindergarten through 5th grade.

The process of *responding* provides students with opportunities to respond to their own and other artists' works and processes, and in so doing develop the skills of critical analysis, interpretation, evaluation, reflection and communication. The process of creating provides students with opportunities to communicate distinctive forms of meaning, develop their technical skills, take creative risks, solve problems and visualize consequences.

(Making the PYP Happen, p.136)

The manifestation of responding and creating in the K-5 classroom is introduction to a variety of art forms and artists with the opportunity to visually and physically explore the *big world of art*. From the earliest grades, children are learning through discovery. They are building a knowledge base in art related to a larger web of ideas that connect what they are able to do with what they understand across disciplines. "...children's visual thinking begins with the exploration of media" (Anderson and Milbrandt, 2005, p. 47). As a practical matter, instruction is heavily weighted toward the basic skills, tools, media and concepts in the making of art. Art education is

integrated across disciplines and naturally includes connections to studies in math, science, language arts and social studies. Yet, students still need to be introduced to the media, processes, vocabulary, and working concepts basic to art education. We can say then, that instruction is necessarily skill-based as the investigation and manipulation of tools and materials themselves are at the heart of art making for beginning artists.

Teaching authentic meaning making involves a process of building on this acquisition of skills and foundation of knowledge. That is, to help students combine what they have learned from art experiences with mimesis, the creation of expressive form and familiarity with conventional signs to engage in higher order thinking and purposeful, meaningful art making (Eisner, 2002). The framework and instruction in K-5th grade art builds artistic skill and knowledge and supports the transition to personal meaning making in 6th-8th grade art. The methods explored in this study were expected to build well on the model of responding and creating to which students had been exposed in the IB/PYP art curriculum.

2.1.3. Meaning Making and Developmental Stages

The developmental characteristics of young learners serve skill-based art making well in the early grades. They learn best through active exploration of materials and think intuitively rather than logically. Even as instruction is centered on the properties of media and artistic techniques, purity of expression is preserved, as young artists naturally explore on a deeply personal level. In one of my lessons about expressive marks, first and second grade students were introduced to several examples of visual music by Wassily Kandinsky, then given recycled materials of various shapes and sized for printmaking to music. I was amused, yet not surprised, to note that the paintings were more evocative of the personality of the individual child than the music playing in the background. Never is it more evident than in the early years that the art and

artist are one. Every piece produced is a self-portrait, imbued with the personality, spirit, emotions, experiences, hopes and fears of the artist. Early stages of development are favorable for exploring the possibilities and limitation of different media as well as the creation of expressive form, one of the three modes of treatment used for meaningful representation (Eisner, 2002).

By fourth and fifth grade, a group identity emerges that enables the artist to see himself/herself in relation to others (Wood, 2007). Nine and ten year old artists become very interested and aware of how things work and why things happen, making this a good time for conventions of scientific exploration to cross over into the art room. Curiosity leads students to actively experiment and problem solve in art. The exploration of media and techniques grows in sophistication with this maturing ability to transfer knowledge across domains. Cognitively, ten year olds become more concerned with factual correctness and getting things right. They are ready to learn about space, depth and perspective in art (Wood, 2007). And with this, their artistic skill set along with knowledge of artistic structures continues to grow.

As art becomes an important area to demonstrate technical ability, attitudes about art begin to change. Students actively seek out models or standards by which to measure their capabilities. As ten to eleven year olds build their group identity, they may sort themselves into subgroups of those who are good at art and those who are not (Wood, 2007). “Artistic progress in their eyes is defined by the mimetic quality of their rendering” (Eisner, p 16). Independent art making leans heavily toward detailed, accurate line drawings and cartooning. In the early grades, learning to represent the world through simple shapes and symbols, or *conventional signs* is an important part of visual literacy and fine motor practice (Eisner, 2002). Later, these conventions can become a safety net when students are tentative or insecure about their ability to represent

their world with greater accuracy. To address these developmental changes, instruction by fifth grade is intentionally more focused on close observation and careful attention to proportion and relationship of parts to the whole. Students are guided to more skillfully represent the real world by taking time to perceive what is actually seen rather than relying on learned icons. It is critically important to establish and reinforce a growth mindset at this stage. I want to steer students away from defining themselves as artistic or not artistic based on their current abilities, associating effort with improvement instead.

Between 11 and 13 years of age, students have an increased ability to think abstractly, reason and see the world from different perspectives (Wood, 2007). They enjoy conversations with peers and adults and are more interested in discussing substantive issues. They are more connected to civics, history, current events, politics, social justice and environmental concerns (Wood, 2007). Middle school students are growing in their ability to reflect and respond in various ways to historical and contemporary conflicts. They are beginning to grapple with the larger, more complex questions central to life and living, and seeking ways to confront and make sense of essential questions. They are poised to explore and express in meaningful ways through the arts, even as they instinctively avoid making themselves vulnerable to peers or teachers (Dweck, 2008). The methods explored for this study were well suited to the cognitive abilities of adolescents described by Wood (2007).

2.2. The Importance of Classroom Culture to Authentic Meaning Making

Encouraging adolescents to think and act outside their comfort zone involves crafting a classroom environment conducive to creative risk-taking (Dweck, 2008). Anderson and Milbrandt (2005) assert that student self-expression can be blocked by numerous emotional risks and fears. A list from the *Universal Traveler* (Koberg & Bagnall, 1974, as cited by Anderson &

Milbrandt, 2005) includes:

Fear of making mistakes

Fear of being seen as a fool

Fear of being criticized

Fear of being misused

Fear of being alone (a person with an idea is a minority of one)

Fear of disturbing traditions by making changes

Fear of breaking taboos

Fear of losing the love of the group.

Fear of truly being an individual. (p. 74)

Using what we know about how the brain functions in learning situations is a key component of implementing effective teaching methods. Jensen (2008) suggests that negative impact of stress and threat can be minimized by increasing a sense of safety at school, encouraging positive relationships among learners, providing numerous opportunities for students to express themselves and reducing stress by activating prior learning (p.490). Teaching methods and routines that help teachers meet students where they are and provide an outlet for personal expression support personal meaning-making. “When you create a safe and relaxed learning environment with an absence of threats and high stress, many learners will surprise you. They’ll quickly exhibit improved thinking and problem-solving skills and fewer disruptions and behavioral problems” (Jensen, 2008, p. 50).

Establishing the goal of personal growth is central to the process of meaning making. It is generally accepted that verbal and mathematical ability can be developed through attention and effort. Yet artistic ability and creative intelligence are often viewed as something people are born

with (Dweck, 2008). Positive messages that foster intrinsic motivation and cultivate a growth mindset include praising effort and problem solving ability and measuring success with authentic assessment tools that help students track their individual growth.

Adolescence, as we've seen, is a time when hordes of kids turn off to school. This is a time when students are facing some of the biggest challenges of their young lives, and a time when they are heavily evaluating themselves, often with a fixed mindset

(Dweck, 2008, p.218).

As previously mentioned, adolescence is also a time when hordes of kids turn off to art as they fail to see the relevance or importance of art to their own lives. They don't know how art has been credited as important in the lives of people who did NOT become artists. In *Creative Intelligence*, Nussbaum (2013), describes Steve Jobs' experience with a single calligraphy class as profoundly influencing the design of the user interface for Apple computers. He asserts that knowledge gained as a result of deep study and practice in the arts can become a resource for creative thinking in other disciplines (Nussbaum, 2013).

Cultivating a growth mindset enhances a positive learning environment and encourages students to persevere in developing the thinking skills and abilities of authentic meaning-making. *Making Thinking Visible* methodology can help circumvent the unwillingness of adolescents to make themselves vulnerable to judgment as they are focused on demystifying thinking skills for students in a way that helps them hone these skills and recognize how their thinking has changed over time.

2.3 Knowledge Mining

Teaching through inquiry, incorporating cooperative learning strategies, allowing for personal choice and ownership of classroom agreements and project standards and establishing

ways for students to measure their own progress are all child-centered methods embedded in constructivism that support a classroom environment geared toward student success (Brooks and Brooks, 1993).

Constructivist methods that make students the authors of their experience allow the teacher to guide and support students in meeting their own goals. When teachers allow students some control and choice, support their natural sense of curiosity, teach them to leverage strengths against weaknesses, acknowledge effort and reinforce belief in capabilities while modeling a joy of learning, intrinsic motivation is increased (Dweck, 2008). *Visible Thinking Routines* provide a vehicle for making these things happen in the classroom.

The key for my 6th -8th grade students was tailoring my methods to transition students from an emphasis on skillful mimesis, to using their skills to produce original, meaningful artwork. Exemplars at this new stage of art making were about looking beyond techniques to consider the deeper purpose and contextual meaning of the artwork. We were now interested in models of meaning making that helped students better understand and create personal expression.

Nussbaum (2013) refers to this updated take on finding inspiration from the past as *knowledge mining*. Initially, he recommends acknowledging the “knowledge we all possess by virtue of who we are and which “tribes” we belong to, the kind of knowledge gained not from practice, but from life experience” (p. 49). Authentic student work embodies the values of a generation, a culture, relationships and attitudes that are first hand. It’s important that the student’s own voice and experience are not subjugated to the source of inspiration, but that the inspiration provides the foundation for creative expression (Nussbaum, 2013). Knowledge mining through exemplars helped orient students to what is being observed; the expressive qualities that can be appropriated in service of their own meaning-making.

Art education in the early years is largely about acquiring the skills and knowledge basic to making art. Young art students explore, experiment, and acquire a foundation in making art through observation and imitation. As the artist grows in skill and understanding, he is guided to create original meaningful art in his own voice.

“There’s an enormous difference between memorizing a few key facts and having an authentic grasp of a subject” (Jensen, 2008, p. 177). Likewise, there is a big difference in being able to mimic the style or technique of an artist and truly creating art from within oneself.

Authentic, meaningful learning requires students to process information in their own way, along their own timeline and in relation to their own perceptual maps. Sorting, analyzing and drawing conclusions in the context of one’s own life are what makes information stick.

(Jensen, 2008, p.78)

This is one reason that personal meaning making is valuable to education (Jensen, 2008, p. 83). Teaching through exemplars, then, is first a way to develop artistic skill and later, a way to explore how artists create authentic visual communication. According to Jensen, “our brains fully know something only when we represent the information in our own meaningful way” (p.178).

Employing teaching methods that help us realize what students already know and what they are motivated to learn, helped me determine how best to frame new information. And through assessing current understanding, I could more effectively plan for the remedial or enrichment needs of the immediate student population. Authentic assessment within the constructivist (meaning making) model can be imagined as a spiral within which students continuously make choices, act on those choices and reflect on their experiences (IBO 2007,

2009). As larger concepts were revisited, student ideas could grow in complexity and power. As Eisner (2002) asserted, “Meaning is not limited to what words can express” (p.230). According to Brooks (1999), students develop stronger abilities to integrate new information at their individual cognitive and developmental place with each new cycle. The teacher provides a framework for learning that places the student at the center of their own learning, encourages discovery and provides the opportunity for reflective self-assessment (Brooks, 1999). Pente (2004), explains that artistic activity provides a greater capacity for reflective practices, allowing individuals to delve into aspects of self that cannot be adequately expressed with words.

2.3.1. Making Thinking Visible

“Too often the thinking that is required to turn activity into learning is left to chance” (Ritchart et al., 2011, p.9). In 2005, researchers at Harvard Project Zero completed a five year study that explored how to nurture thinking habits in schools. The initial set of *Visible Thinking Routines*, made available via the World Wide Web, was immediately recognized by educators as a valuable resource in their daily work. Harvard colleagues, Shari Tishman and Patricia Palmer, involved in the Artful Thinking initiative, noted the usefulness of the thinking routines in supporting arts integration (Ritchart, 2008, p. xvii). The enthusiasm of educators and the broad applicability of the thinking routines led to the publication of a subsequent book, *Making Thinking Visible* (2005), that expanded and extended the routines, applications, teacher stories and goals of the initial effort to “fostering engagement, uncovering understanding and promoting independence within a classroom culture of thinking” (Ritchhart, p. xx). In the book, the authors outline the types of thinking involved in understanding and provide a series of thinking routines that guide inquiry. The importance of inquiry in propelling learning is evident in our own learning experiences. When students are curious enough to develop a desire to know, they are

naturally more engaged in the process of discovery. Through discovery, understanding is developed and curiosity extended to a whole new level of questions. The new questions are testimony to an increased depth of understanding (p.13). A continuous cycle of finding and answering questions generated from individual curiosity and authentic desire to know is at the heart of life-long learning. According to the authors, making the kinds of thinking students need to do more transparent helps teacher more effectively promote those kinds of thinking in their interactions with student, which increased my interest in testing the methods with my students. Furthermore, Ritchart et al asserted that as thinking was demystified, students would become more adept at self-directed learning. “To be properly metacognitive, then, students have to be realistically *aware* of their own cognitive resources in relation to the task demands, and then to plan, monitor and control those resources“(Biggs, 1978, as cited by Ritchart et al., p. 15). The benefits of these methods promised to support the kind of metacognition that enriches the capacity for personal meaning making in visual arts.

The organization and structure of *Visible Thinking Routines* (Ritchart, et. al, 2011) supported my study. The routines are organized by the types of thinking each is designed to promote, which was valuable for helping students recognize the intellectual value of artistic experiences. The routines are designed to provide a structure for illuminating what students already know in order that further instruction could be planned to build on prior knowledge. The routines are intended to be useful tools for guiding students to identify areas of interest, set goals and attend to their own achievement. They are meant to endow students with a greater ability to deepen understanding and teachers with a means to evaluate progress and document growth. As such, the routines could serve as assessments themselves or inform the development of authentic

assessment tools that more clearly track learning along a continuum. The routines could also become a means of re-framing the value and purpose of art and encouraging creative risk-taking.

Ritchhart, Church and Morrison (2011) provide a matrix of thinking routines and the types of thinking promoted for quick reference (p 51).

TABLE 1.1
Thinking Routines Matrix

Routine	Key Thinking Moves	Notes
<i>(1) Routines for INTRODUCING & EXPLORING IDEAS</i>		
See-Think-Wonder	Description, Interpretation & Wondering	Good with ambiguous or complex visual stimuli
Zoom In	Description, Inference, & Interpretation	Variation of STW involving using only portions of an image
Think-Puzzle-Explore	Activating prior knowledge, wondering, planning	Good at the beginning of a unit to direct personal or group inquiry and uncover current understandings as well as misconceptions
Chalk Talk	Uncovers prior knowledge and ideas, questioning	Open-ended discussion on paper. Ensures all voices are heard, gives thinking time.
321 Bridge	Activates prior knowledge, questioning, distilling, & connection making through metaphors	Works well when students have prior knowledge but instruction will move it in a new direction. Can be done over extended time like the course of a unit.
Compass Points	Decision making and planning, uncovers personal reactions	Solicits the group's ideas and reactions to a proposal, plan or possible decision.
Explanation Game	Observing details and building explanations	Variations of STW that focuses on identifying parts and explaining them in order to build up an understanding of the whole from its parts and their purposes

<i>(2) Routines for SYNTHESIZING & ORGANIZING IDEAS</i>		
Headlines	Summarizing, Capturing the heart	Quick summaries of the big ideas or what stands out
CSI: Color, Symbol, Image	Capturing the heart through metaphors	Non-verbal routine that forces visual connections
Generate-Sort-Connect-Elaborate: Concept Maps	Uncovering and organizing prior knowledge to identify connections	Highlights the thinking steps of making an effective concept map that both organizes and reveals one's thinking
Connect-Extend-Challenge	Connection making, identify new ideas, raising questions	Key synthesis moves for dealing with new information in whatever form it might be presented: books, lecture, movie, etc.
The 4 C's	Connection making, identifying key concept, raising questions, and considering implications	A text-based routine that helps identifies key points of complex text for discussion. Demands a rich text or book.
Micro Lab	A protocol for focused discussion	Can be combined with other routines and used to prompt reflection and discussion
I used to think	Reflection and metacognition	Used to help learners reflect on how their thinking has shifted and changed over time.

<i>(3) Routines for DIGGING DEEPER INTO IDEAS</i>		
What makes you say that?	Reasoning with evidence	A question that teachers can weave into discussion to push students to give evidence for their assertions.
Circle Viewpoints	Perspective taking	Identification of perspectives around an issue or problem.
Step Inside	Perspective taking	Stepping into a position and talking or writing from that perspective to gain a deeper understanding of it.
Red Light, Yellow Light	Monitoring, identification of bias, raising questions	Used to identify possible errors in reasoning, over reaching by authors, or areas that need to be questioned.
Claim Support Question	Identifying generalizations and theories, reasoning with evidence, counter arguments	Can be used with text or as a basic structure for mathematical and scientific thinking.

Tug of War	Perspective taking, reasoning, identifying complexities	Identifying and building both sides of an argument or tension/dilemma
Word-Phrase-Sentence	Summarizing and distilling	Text-based protocol aimed at eliciting what a reader found important or worthwhile. Used with discussion to look at themes and implications.

From Making Thinking Visible by Ritchhart, Morrison & Church (Spring 2011) p. 51

The *Visible Thinking Matrix* divides thinking routines into three categories that are helpful in targeting the type of thinking you want students to do. Section 1 includes routines for Introducing and Exploring Ideas. Section two includes routines synthesizing and organizing ideas. And section three includes routines for digging deeper into ideas. The shaded cells in the matrix highlight routines purposefully chosen for use in this study.

2.3.2. Art Investigations

Art Investigations (Herz, R. S. 2010) is a methodology supported by research in brain science. In *Human Brain, Human Learning* (1992), Hart describes the brain as a pattern seeking device. He asserts that the human search for meaning is an innate survival mechanism that drives us to seek understanding, a principle at the heart of intrinsically motivated learning. If students find no meaning, they refocus their attention to something else. Pattern detection serves not only the acquisition of artistic skill, but the greater search for meaning as students look for relevant connections to their own lives, feelings or situations by constantly asking, “How is this new information like something I already know?” (Carla Mathison). Recognizing patterns and relating new information to what we already know prepares us to respond to the world around us and our own emotions (Jensen, 2008, p184). This is the type of critical thinking and meaning making that *Art Investigations* (Herz, 2010) helps develop.

3 METHODOLOGY

Because of the nature of my study, I chose autoethnography as the methodology. As a set of methods, ethnography is not far removed from the sort of approach that we all use in everyday life to make sense of our surroundings (Genzuk, 2003). The purpose of social research is to capture the character of naturally occurring human behavior, which can only be achieved by first-hand contact in natural settings, not by inferences from what people do in artificial settings. Therefore, ethnographers carry out their research in natural settings focused on a single place or group of relatively small scale.

In the case of autoethnography, the behavior of the research participant, which is myself, is studied in everyday contexts, rather than under experimental conditions created by the researcher. Data collection is relatively unstructured as compared to quantitative research involving a specific hypotheses and controlled conditions. The research does not involve following a rigidly defined plan and the categories used for interpreting data are not fixed. While the research is purposeful, even systematic, data is initially collected in as raw a form, and on as wide a front, as possible and generated from a variety of sources (Genzuk, 2003). The researcher analyzes and interprets the meanings and functions of human actions through verbal descriptions and explanations wherein quantification and statistical analysis plays little or no role (Genzuk, 2003). “They collect field data by means of participation, self-observation, interview, and document review; verify data by triangulating sources and contents; analyze and interpret data to decipher the cultural meanings of events, behaviors, and thoughts; and write autoethnography.” (Genzuk, 2003 p.?) Like ethnographers, auto ethnographers are expected to treat their autobiographical data with critical, analytical, and interpretive eyes to detect cultural undertones of what is recalled, observed, and told of them to gain a deeper understanding of self

and others within a particular context. Chang (2013) argues that autoethnography should be ethnographical in its methodological orientation, cultural in its interpretive orientation, and autobiographical in its content orientation.

My research involves evaluating my experience teaching through research-based routines believed to support the transition of 6th-8th grade students from teacher-led skill-based art making to authentic self-directed art making in their own voice. This outcome is the ultimate goal of my teaching journey with students at High Meadows that begins as early as Kindergarten and ends with sending them off to High School at the end of 8th grade. The evaluation includes a personal assessment of how well these routines mesh with a constructivist classroom including the particular characteristics of the High Meadows School culture.

Reflecting and evaluating to my own satisfaction how research-based teaching methods such as *Art Investigations* (Herz, 2010) and *Visible Thinking Routines* (Ritchhart et al, 2011) work to advance critical thinking skills while deepening knowledge and understanding in art lessons will assist me in refining and improving my own teaching practices.

The study compares routines and related experiences in two different sessions of Cartooning and one session of Printmaking. The analysis and interpretation is extended to include recent autobiographical data from other class experiences. The methods were woven into established methods that I believe support my teaching goals. Established methods include developing a shared understanding of principles and beliefs at the heart of our art experience together, a planned emphasis on setting and working toward individual goals, and involving students in establishing the criteria for measuring growth. These established practices help clarify expectations and support a positive learning atmosphere.

My research questions are:

1. To what extent do the teaching methods in *Visible Thinking Routines* and *Art Investigations*, in my opinion, engage students in higher order thinking and advance personal meaning making as they transition from teacher-led, skill-based art making to self-directed, concept-based artwork with personal meaning?

A simple flowchart provides an overview of the structure into which these methods were woven. Some routines are designed to serve as a pre-assessment and help lead students in setting personal goals related to the acquisition or advancement of skills and/or knowledge, others stimulate creative or critical thinking that inspires creative output. These routines were also useful in determining the teacher-led projects that appropriately challenged students to think and grow. Other thinking routines and investigations were incorporated as needed to support deeper understanding, illuminate the cognitive processes that accompany art making endeavors and support meaning-making. Following several teacher-led projects, students were given the opportunity to design, plan and complete individual projects with personal meaning.



Figure 1: Framework for Thinking and Creating

2. To what extent do these teaching methods, when combined with current methods (such as goal setting and self-evaluation) help me frame art-making as an intellectual endeavor and encourage a growth mindset?

Students were guided through substantial conversations and collaboratively constructed flip charts sparked by *Visible Thinking Routines* and *Art Investigations*. The routines were accompanied by quality examples of meaning making and helped students develop the criteria by which individual growth was measured. Having determined the criteria for success to their own satisfaction, students could work and seek guidance or further instruction as individually needed. Data was collected from several field texts and kept visible in the classroom during the course.

Field texts used for data collection included:

1. Flip charts that record and organize student comments collaboratively developed during the process of inquiry (visible thinking)
2. Routine voice-recorded observations, reactions and reflections
3. Notes from interactions with students, teachers and other members of the community that arise naturally during the course of the study.

The overview began as a loose outline of activities that included the guiding principles (cultural context) that framed connection with students following the process of thinking, responding and creating (intentional procedural design of High Meadows art curriculum) over the six week course. Changes in the expected flow, as often occurs in a constructivist environment, were incorporated in the collection of data and considered a natural part of the documentation and evaluation process. The analysis of data from my classroom experience was evaluated within the context of the culture within which I teach and my personal and professional beliefs about teaching. The full research and analysis process illuminated the extent to which I believed my

teaching goals were more closely achieved through the incorporation of *Visual Thinking Routines* and *Art Investigation* teaching methods and provided an insightful basis for arts advocacy at High Meadows School.

3.1. Limitations of the Study

This study had a limited scope in a specialized setting. Thinking routines were incorporated into three six week classes over a single twelve week quarter. High Meadows School is small private school with a well-established sense of community. The student to teacher ratio is low. The student body is fairly homogenous. Teachers have a great degree of autonomy and the school does not measure success by standardized tests. The environment is especially favorable for successful implementation of methods like *Visible Thinking Routines* that are constructivist by nature. In order to fully evaluate the impact of thinking routines on student outcomes, the study would need to be conducted over a longer time span and with a variety of classes. The true outcome sought is creating a culture of thinking in the art classroom, which can be better evaluated over time.

4. RESEARCH RESULTS

4.1. Cartooning – Session One

Planning the first day of a mini-course is tricky. Technically, the first day launches the class, yet I am aware the group of students here today may not be the group I have when the dust settles after two days of drop/add. Students register for a first, second and third choice. Some students register late and some forget. Late and unregistered students get sorted into available classes based on the numbers. A preliminary roll includes students who have chosen the course as their first, second or third choice, and students who were placed in the course by default.

Cartooning is a popular mini-course that appeals to a broad audience. Students will sign up for cartooning who may not otherwise take an art class. The class also has a greater appeal for boys, which is a segment of our student population that declines in middle school art classes. But this reality is a double-edged sword. I'm confident some students take cartooning expecting it to be little more than a doodling class. I am almost positive they did not sign up for cartooning with the expectation of challenging themselves intellectually. I am pleased to see some faces I haven't seen in an art class since 5th grade, including a number of boys. The social dynamic is good. Most of the students have at least one buddy. I have fourteen students, five boys and nine girls. Most of them are 7th graders. I have two 6th graders and two 8th graders. In my world, this is a good scenario. I'm teaching in the smaller of two art classrooms; a converted storage area that is best suited for 12 students, which is my published enrollment limit. But I want these students to stay. All of them. I'm keenly aware of the teaching opportunity before me and know this may be the sole art class some of these students elect in middle school.

For this auspicious first day, I have an activity planned that I have never done with students before. I've tried a variety of approaches and have yet to find an opening routine that

feels right. Students are accustomed to the inquiry process. Before now, I might have had an informal group chat accompanied by some images on a Power Point or a Pinterest Board.

Sometimes I begin a class by asking students what questions they have and answering their questions. Sometimes we trade expectations – you share your expectations and I’ll share mine. I’ve tried jumping immediately into a hands-on art activity before having any discussion. The first day routine is influenced by many things. Some are well-planned, thoughtful and intentional...some are unfortunately disorganized and reactive. I am committed to a student driven experience. At times, my methods have backfired creating more confusion and ambiguity than direction. My goal is to have a solid plan that is structured to support constructivist methods and student centered inquiry that I may better achieve my teaching goals. I am opening the class with my version of the visible thinking routine, *Compass Points*. The key thinking moves of this activity are decision making, planning and uncovering personal reactions. I have four questions posted on four pieces of 18”x24” tag in each corner of the room. *Compass Points* helps uncover information that will help determine the direction of the class. The routine implies these four corners represent north, south, east and west. However, for thinking purposes, E is for Excitement, W is for Worries, N is for Needs and S is for Stance, Steps or Suggestions. Each of the posters has a question written across the top that is more specific to the category of the question. Sticky notes and pencils are on the table. I ask the students to visit the four corners of the room, read the question and write the answer on the sticky note. No names. Just the answer. I have tweaked this routine to make it a better fit for my class, which is encouraged and supported by its authors. I expect the *Compass Points* activity to reveal what students are thinking and provide a structure for considering the idea of cartooning more broadly. My four questions as well what I hope to learn through the answers are:

1. Excitement: What is your favorite cartoon or comic; one that most influences or inspires you? (I want to learn something about what motivates and interests you)
2. Worries: What is one thing you want to be sure you get to do in this class? (That is, something you are afraid you won't get to do or would be disappointed about if not a part of what this class involves. I want to support your goals.)
3. Needs: What is the difference between a comic, a cartoon and a caricature? (I want my instruction to build on your current understanding.)
4. Stance: Why do you think cartoons, comics and caricatures exist? What is their purpose? (I want to stretch your thinking.)

Students take about 15 minutes to write and post their answers. I explain we will discuss these *Compass Points* later. I don't want the class to end without students putting pencil to paper in their sketchbooks. For the last fifteen minutes of class, they are allowed to draw in their sketchbooks. I have a couple of cartooning resources available for students to peruse if they need inspiration. The atmosphere is relaxed as students sketch and share their drawings informally. This time is more purposeful for instruction than it may seem to my class. Before we meet again I have an opportunity to make a plan that takes into consideration what my students know and think as well as what they can do.

4.1.1. Planning for Engagement: Excitement and Worries

I expected the answers to Excitement and Worries questions to inform student goal setting and guide the specifics of the skill-based, teacher-led assignments. As expected, *Excitement* answers were varied and personal. Reflecting on the student responses, I noted they were not only aligned with what I would expect developmentally, but provided a platform for

teaching about the psychology of comic appeal that would help them become more skilled at writing original comic content. A table of my summary is shown below:

TABLE 4.1: Excitement

Excitement: What is your favorite cartoon/comic; one that most influences or inspires you?	
Students Favorite Comics	My identification of the appeal
Pearls Before Swine, Get Fuzzy	Irreverence, sophisticated sarcasm
Zits, Luann, Curtis	Identifying with characters and situations
Brewster Rockitt, Space Guy, Scary Gary, Lio	Silly, unexpected, slapstick, funny

The answers to the Worries question helped me understand motivation. I wanted students to know that I aim to support their ideas and efforts so they can achieve what is important to them. I can best meet my goals for students through this kind of support. This also gave me a glimpse into what kind of attitude students walked in with. I interpreted goals that involved growth in skills or understanding as evidence of intrinsic motivation. I interpreted the absence of a goal or a goal that was social in nature, like having fun, as evidence of a student whose motivation in this particular class was extrinsic. I believe these are the students who expected having a positive experience was dependent on the extent to which they were entertained or engaged by the people in the class or the activities planned by me. These students may not have walked in with an interest in the art of cartooning so much as they associated cartooning with playfulness and fun. A table of Worries answers is shown below:

TABLE 4.2: Worries

Worries: What is one thing you want to be sure you get to do in this class?		
	General categories	Answers that fell into this category
5	Improve Drawing Skills	To practice drawing cartoons/learn new techniques/improve cartooning skills/learn how or get better at drawing movement
4	Have Fun	Have a good time/play around with cartooning/explore the genre for the fun of it
2	Level Up	Take my skills to the next level: Create original characters and an original comic strip like a real cartoonist, explore humor/create funnier comics
3	No goal	I don't have a specific goal/didn't sign up for this class/don't really care/I don't want to be bored

4.1.2 Planning for Engagement: Needs and Stance

I expected the answers to Needs and Stance questions to inform instruction regarding concepts, broader understanding and thinking skills that would support student-led efforts later in the class. Student answers to the Needs question confirmed that students have a basic understanding of comics, cartoons and caricatures and showed me points of entry for broadening conceptual understanding. The shaded rows show answers from the girls.

TABLE 4.3: Needs

Needs: What is the difference between a comic, a cartoon and a caricature?			
A.S.	A comic is a story shown in pictures and sometimes words	A cartoon is a figure put into a simpler form (cartoonized)	A caricature emphasizes the features of a person
N.M.	A comic is on paper and can be animated	A cartoon is television based and animated	A caricature is an exaggeration of facial features in person drawn or animated
C.M.	Comic book – superhero	Anything	Normally of a real person
S.B.	A comic shows everyday life	A cartoon is funny	A caricature exaggerates
A.B.	A drawing	Can be drawn or animated	Exaggerated features
S.J.	A comic is more of a story that is cartooned	A cartoon is usually a made up person	A caricature is exaggerating the face
S.L.	A comic is in a book or on a piece of paper. Comics and cartoons both convey a message	A cartoon could be on paper, on television or in books	A caricature is a drawing of someone or something that is highly exaggerated. All three use exaggeration
E.J.	A comic is an illustration of characters and drawings. It is different because it is on paper and tells a sort of story.	A cartoon is an animated version of a comic. It's different because it is the only one animated.	A caricature is an exaggerated drawing of a person or thing.
J.H.	A comic is a series of pictures with dialogue. These are made to entertain.	A cartoon can be a television show, a comic, a picture (anything that's cartoonish/animated).	A caricature is a picture of usually a famous person with exaggerated features. Caricatures can be in a cartoon, comic or just a picture
I.W.	A comic is kind of funny	A cartoon is like a comic with video and sound	Exaggerated, funny or to make a point
J.I.	A comic is about the same as a cartoon		A caricature can be used in a comic
E.S.	A comic has at least one frame. The picture or drawing does not move.	A cartoon is a movie form or moving form of a cartoon	A caricature is of a person in exaggeration. They all do not look "real" but you can tell what it is and each person has their own style.
E.P.	Comics are stationary and can be more than one panel	A cartoon can be moving	Caricature is an exaggeration. All of them can be an exaggeration.
L.V.	Comics are drawings	Cartoons are drawings too, but they can be animated	Caricatures are people with exaggerated features.

The *Stance* question addressed the meaning or purpose of cartoons, comics and caricatures. The answer most often given was to entertain or make people laugh. Some students

added a second purpose to their answer, for example: To entertain or convey a message. The numbers in the table below exceed the number of students because I divided two part answers in my summary. This picture of student thinking gave me the best idea of what I might see in student work. I recognized this as the greatest area for growth in personal meaning making. I wanted to stretch student thinking well beyond funny and entertaining.

TABLE 4.4: Stance

Stance: Why do you think cartoons, comics and caricatures exist? What is their purpose?	
No.	Summary of Student Answers
14	To entertain, to make people laugh
4	To communicate ideas, to get a message across in an entertaining way
1	To teach a lesson, communicate opinions (influence?)

Mini-courses do not always begin on a Monday. Looking at the calendar, factoring in the days we are out of school and trying to keep the number of instructional days consistent across the year results in beginning and ending on any day of the week. This mini-course began on a Friday. On Monday, I still have fourteen students, indicating they have all decided they want to be here. However, the subdued energy in the room suggests otherwise. “What are we going to do today?” They wonder aloud. I had planned to jump into doodling as a way of tapping into your creative subconscious, which seemed like a positive and enjoyable way to begin. The conversation as students are arriving and getting settled is about how tired they are, how they hate Mondays, how they wish there was a mini-course called napping. (No joke.) Here we are, teacher and students with opposing goals. My first instinct is to address metacognition beginning with acknowledging and relating to how they feel without sacrificing my goal to establish a classroom culture of thinking. I can relate, I tell them. Sometimes I feel that way too. I’ve had to find ways to push through. What do you do about it? How do you get yourself in a place where you can get something done? It can be a big problem when teachers expect you to be really

focused and get a lot done and you feel like doing nothing. What can we do about that problem in this class?

Tug of War is a thinking routine that fit the situation. The key thinking moves for *Tug of War* are perspective taking, reasoning and identifying complexities. The routine is designed to identify and build both sides of an argument or tension surrounding a dilemma with opposing views. This is a rich routine that could be used in a much more sophisticated situation than this one, but I'm led to give it a try.

On the board I drew a line with a single stick figure wearing glasses on one end that represented me and several stick figures on the other end that represented students. I intentionally used humor and simple graphics to make a point, making a mental note to come back to this later on when we discuss how cartooning can be used to make an otherwise dry subject more interesting or engaging. On one end I wrote the teacher perspective; focus, pay attention, be productive, learn a lot. On the other end, my students' current state of mind; I am tired, I can't focus or pay attention, I am not motivated to learn. If the teacher is tugging in one direction and the student is tugging in another direction, something has to give. What happens if the teacher loses her grip? Is that really a win for students? What happens if students lose their grip? Is that really a win for the teacher? Again, I created an info graphic to make our thinking visible in the classroom. It isn't necessary to create an info graphic. In my case, the creation of an info graphic in this real world scenario is a way to model one of the ways information is made more accessible with simple drawings combined with streamlined text.

The collaborative solution connects with what I have read about brain-based learning. Students reported they feel focused and productive Tuesday, Wednesday and Thursday. Monday and Friday are less productive as they re-orient themselves between the demands of school days

vs. weekend. To facilitate the transition, they suggest Monday should be more laid back with an emphasis on finding creative inspiration for the week ahead. The first day of the school week was dubbed Doodle Monday. Students described Friday as a day when they are battling the distraction of upcoming weekend plans. We discussed the kind of activities that most capture their attention. I remembered a relevant fact from a Thornburg presentation: Humans process visual information 60,000 times faster than text (<http://www.tcpd.org>). Friday becomes Film Friday even though any video we watch is bound to be digital.

It was important to articulate the conditions upon which this agreement stood to facilitate a shared understanding. Everyone had to be clear about their responsibility. I was explicit about my expectations. I expected the students to use the independence and relative freedom of Doodle Monday wisely so they were fully engaged and productive Tuesday through Thursday. I expected Film Friday to deliver a learning experience in a way that is more likely to hold attention and facilitate retention. I expected learning to happen every day as every day provides an opportunity to make progress toward individual goals.

Then we had to talk about what those opportunities looked like. High Meadows students can be demanding of time and attention. They are accustomed to small classes and individualized instruction. One of my goals for using thinking routines is to advance the thinking skills students need to solve creative problems independently. In a Constructivist classroom set up to support students as they follow their interests, one teacher can hardly provide direct assistance to every student at each phase of learning. I have gathered the intelligence from the first day, planned my teacher-led projects and I'm ready to set the stage for independent learning.

Chalk Talk is a quick and easy thinking routine that works for a wide range of situations. I asked students what they do when they want to learn about something that interests them in

their own world outside of school. For example, if someone wants to learn how to draw something on their own, how would they go about learning? I made a list as students comment and recognized the answers could be grouped into four main categories, so I pulled out a blank piece of paper, clipped it to the white board easel and created a poster that summarized what the students said.

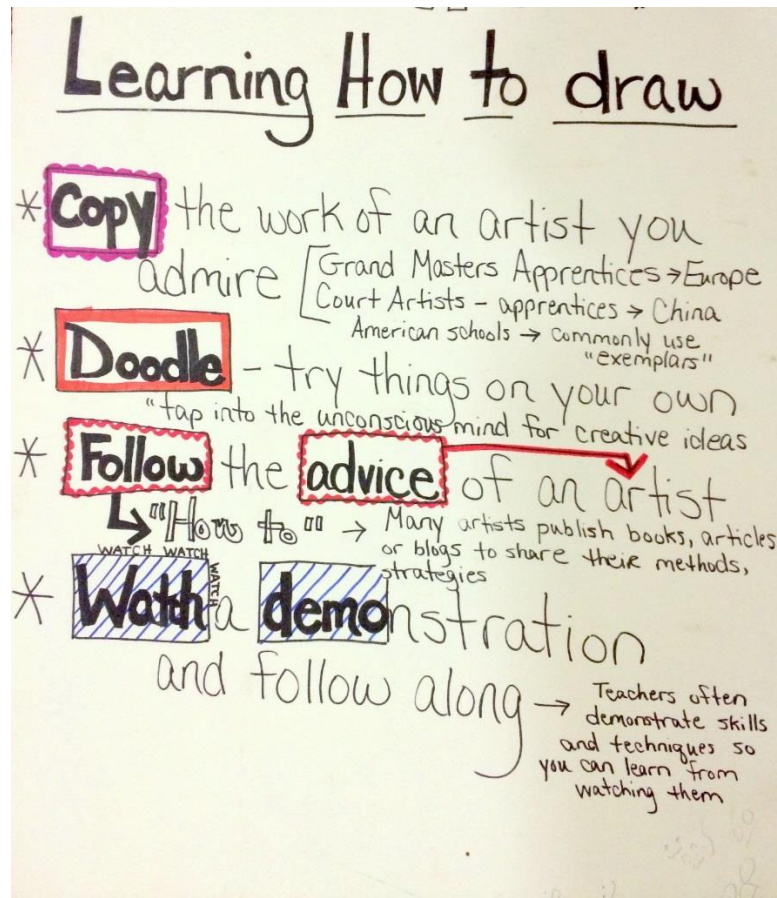


Figure 2: Chalk Talk: Learning How to Draw

The four ways cited by students were:

1. Copy an artist you admire
2. Doodle or try things on your own
3. Seek the advice of someone more experienced.
4. Watch a demonstration

Each of the four ways people learn to draw identified by students provided me with an opportunity to cover a principle or value that supported a thinking culture in the classroom and a growth mindset. I could have set up my classroom by telling my students the rules of the class and how things would be done, but it wouldn't be the same. Giving students a voice in deciding what and how we will learn had a direct impact on both engagement and achievement.

The first idea, copy and artist you admire, allowed me share the historical roots of learning from great masters. The practice of copying the work of master artists in both Ancient China and Europe was imparted in storytelling fashion. An important value emphasized was the fact that being able to accurately copying another artist is a means to an end...not the end itself. The discussion gave me the right situation for stretching student goals beyond mimicry to creating original work in their own voice.

The second idea, doodle or try things on your own, allowed me to address the importance of creative risk-taking and the ability to work independently in making progress toward individual goals. It also underscored the importance of playing with ideas in a relaxed manner.

The third idea, seek the advice of someone more experienced, led to a discussion about all the resources available to artists including books, blogs, magazine articles and websites. Our discussion linked effort to success, stressing that few students get better at anything if the only time they practice is during class.

Finally, watch a demonstration underscored the value of being physically shown how to do something whether in person, as with a teacher in the classroom, or in a video. All four ideas gave students a platform for discussing how best they work and which of these strategies they found most helpful.

A lot of thinking had taken place in just three days, even though we had not yet gotten into the concept based projects that would come later in the course. We had established what learning would look like in this class and were ready to begin the learning experience. The teacher led assignments covered the basics of facial expression, body types, body language and movement. We examined facial expression and body language and practiced drawing a page of faces and a page of bodies. We looked at resources for creating a sense of movement and created an action and movement spread.

The final teacher led project was an introduction to caricatures and political cartoons that served a dual purpose. First, it was another way to improve observation and drawing skills and second, it was a bridge to opening student's minds to cartooning's many uses. We began with an *Art Investigation* that included three political cartoons. Students were asked to observe the cartoons without talking for five minutes, after which they would share their observations and thoughts. *Art Investigations* are simply a thinking routine focused on a particular work of art with an identified theme. After our discussion, I told students we were going to learn more by creating a caricature. My original idea was to have students create a caricature of themselves. I genuinely thought they would love the project, but the suggestion was met by a huge negative response that took me by surprise. As an alternative, I pulled out some old magazines and allowed students to find an image of someone to caricature. The caricature lesson lasted about three days.

Having reached the second half of the mini-course, we were poised to transition from working on projects assigned by me to determining student led projects.

One of the habits that developed over the course of the class was checking the Google Doodle on Doodle Monday. One of the doodles commemorated the 182nd birthday of Edward J. Muybridge (Eadweard J. Muybridge's 182nd birthday. (2012, April 9). *Eadweard J. Muybridge's*

182nd Birthday. doi: <http://www.google.com/doodles/eadward-j-muybridges-182nd-birthday>). The animation features Muybridge’s “*Sallie Gardner at a Gallop*”, also known as “*The Horse in Motion*”. In the doodle, Muybridge’s famous galloping horse was shown first as a series of stills that, when clicked, moved faster and faster until the horse appeared to be galloping across the page. Muybridge’s photographed the galloping horse using a series of interval spaced cameras. His work helped early scientists learn how animals move and helped build the foundations of modern movies. (Cavna, M., 2012, April 9,) The excitement over the subject of animation led to an impromptu *Art Investigation* about animation. We looked up more information about Muybridge and watched some additional photographic sequences. As students voiced their observations, I asked questions that required them to explain or describe their observations such as, “What makes you say that?” *Art Investigations* methodology became the standard way the class observed and responded to whatever was presented on Film Friday, providing a valuable platform for thinking more deeply about cartooning as a means of expressing what matters.

At this point of a mini-course students are poised to refine their goals for the student led projects. The Worries answers identified broad student goals at the beginning of the class. We referred back to this list to begin the process of setting individual goals that were more specific.

TABLE 4.5: Student Led Projects

Worries: What is one thing you want to be sure you get to do in this class?		
General categories	Answers that fell into this category	Student-driven projects aligned with personal goals
Improve Drawing Skills	To practice drawing cartoons/learn new techniques/improve cartooning skills/learn how or get better at drawing movement	Create an original comic book. Create an original comic strip.
Have Fun	Have a good time/play around with cartooning/explore the genre for the fun of it	Explore animation through the creation of a Flip Book
Level Up	Take my skills to the next level: Create original characters and an original comic strip like a real	Create an original Comic Strip

	cartoonist, explore humor/create funnier comics	
No goal	I don't have a specific goal/didn't sign up for this class/don't really care/I don't want to be bored	Explore animation through the creation of a flip book

In the fall of 2012, High Meadows School adopted the No Place for Hate program (Anti-Defamation League (n.d.). *No Place for Hate*. Retrieved from <http://www.adl.org/npfh/>) to educate students about bullying in schools. Middle school students and teachers discussed the issue of bullying in class meetings and had participated in an awareness program led by representatives from the Anti-Defamation League. The issue was fresh on their minds and one of the first ideas that came up when we discussed how cartooning could be used to express thoughts, ideas and feelings that matter. Several students created cartoons with a message about bullying. In one of the cartoons, a child bullied another, but changed his demeanor and story when an adult arrived, leading the adult to punish the bullied child. The discussion around the comic showed how other students instantly related to the scenario. In another, a student was being bullied when a very large adult walked up behind the bully. In the cartoon panel, the adult can only be seen from about the knees down. In the next panel, the bully's bravado has quickly shriveled as he becomes aware of the adult looming large over him. In these simple cartoons, students were re-enacting their own stories and talking about what they had experienced or observed with each other.

The final thinking routine of the class was taken from section two of the matrix, routines for synthesizing and organizing ideas called *I Used to Think/Now I Think*. The key thinking moves of the routine are reflection and cognition in order to show students how their thinking has shifted and changed over time. This routine was the best indicator for me that students had

grown not only in artistic skills, but in conceptual understanding through the processes used in class.

TABLE 4.6 Cartooning – First Session: I used to think, now I think

Cartooning – First Session: I used to think, now I think	
A.S.	I used to think cartoons were to make you laugh. Now I think it's to express opinion and to entertain audiences of many ages.
N.M.	I used to think it was to entertain, now I think to entertain, relate to people, send a message
C.M.	I used to think anyone can draw a flawless cartoon. Now I think it takes skill.
S.B.	I used to think they were made to entertain and now I think they also show everyday life from different points of view.
A.B.	(absent)
S.J.	I think the same thing I thought before
S.L.	I used to think that cartoons were just to entertain, now I think they express current matters
E.J.	(absent)
J.H.	I still think it's to make you laugh
I.W.	I used to think it was to entertain and now I think it is all about communication.
J.I.	I used to not know what a caricature was and now I know.
E.S.	I used to think cartoons, comics were only to make people laugh but they're also to get points and ideas across
E.P.	Caricature: I used to have no idea what it was, now I know it's an exaggeration of features. Cartoon: I used to think it was to entertain, now I think it's to entertain, advertise, make fun of someone or something and lots of other reasons. Comic: I used to think it was to entertain and now I think it's like I said about the cartoon.
L.V.	I used to think they were to entertain but also to teach a lesson or communicate somebody's point of view and maybe influence people to act a certain way and I still think that.

4.2. Cartooning – Session Two

I was encouraged by my experience and success in the first session of Cartooning and looked forward to the next cartooning class. Once again, I had fourteen students; but this time there were seven boys and seven girls. Five of my students, two boys and three girls, were enrolled in the first session. Four of the boys, halfway through 7th grade, had not taken an art class in middle school before now. Having students who had taken the class before mixed in with students who are taking the class for the first time presented a challenge. I wanted the class to be fresh for those who are repeating. Yet, I wanted the first timers to have the same opportunity to dig deeper than the other students had in the first session. The first part of the equation, what

students already know and understand, has changed. And a significant gap separated the first time students from the repeating students. I can only assume that the students repeating want to take up where they left off and continue to grow in this genre.

For the second session, I chose to open with *See, Think, Wonder* (STW). STW asks students to look at an image or artwork for a period of time, then talk about what they see, what they think about what they see and what that makes them wonder. I've used this routine for a couple of lower school (K-5th). Lessons. The first lesson for kindergarten this year opened with STW about one of the Blue Dog paintings by George Rodriguez. STW helped guide an inquiry into how we learn to draw by breaking a subject down into simple shapes. Student responses were written on the white board as they shared what they saw, thought and wondered about the painting. At the end of class, I took a photo of the board before erasing it. I could then refer back to it and use the information to guide the lesson moving forward. The routine was equally successful with an inquiry into visionary art and the work of Howard Finster with fourth and fifth grade. I divided the class into small groups of three to four students each. Each small group was given a different painting by Finster to discuss using the STW format. They recorded their small group responses on a single document, then shared their thinking in full group. I asked this middle school group to individually look, think and respond. For the students who were in the first session, I thought of this as a review; a different thinking routine aimed at a similar outcome. I intended to encourage students to be more deeply reflective about the multiple purposes of cartooning. As with *Compass Points* in the first session, I wanted students to stretch and extend their thinking to see cartooning within a larger context.

In the middle of the table were a variety of materials including newspaper comic pages, picture books, a graphic novel, comic books, a couple of political cartoons, animated cartoon

stills, an info graphic and an advertisement. The students were directed to choose something from the pile of materials and take five minutes for “visual research”. I have chosen this term to frame the purpose of observation as more serious than casual reading. The purpose of our research, I explain, is to use the visual information before us to find the answer to a question: How is what I’m holding in my hands related to cartooning, if at all?

The room was frozen for a quiet moment as students studied each other and their choices. Then the boys dove for the comic books and I had to break up a minor scuffle for fear pages would get torn. The newspaper comics were equally popular. Some students sat motionless as materials disappeared, then took what was left. The students settled and the room grew quiet. Some murmured to themselves or whispered to their neighbor. As we approached the five minute mark, students began to quietly test their thoughts with each other. I was hoping this would happen and felt more confident about the activity. I wanted to hear their wonderings to each other. Students wrote their responses on sticky notes and posted their notes onto the literature reviewed. I chose this routine in part to give everyone a voice as I know that some students would not speak up in a full group discussion. I hoped they would take the exercise more seriously and comment with greater honesty if anonymous. I hoped they were intrigued by the first day and wanted to continue the conversation. I hoped all fourteen students would still be in my class the next day.

The written responses were disappointing. The small conversations between students before writing were more thoughtful. Most of the sticky notes have a handful of words and none of them included wonderings. Perhaps I missed an opportunity for a more meaningful experience either through small groups or full group conversation.

4.3. Printmaking

I had a similar situation in my fall Printmaking class. On the first day, I had thirteen students; eight girls and five boys. Of the eight girls, six had taken the Printmaking mini-course before. Those six were a tight friend group of eighth graders. Within that group of six, four were caught up in a cycle of underachievement; hyper-focused on social interactions. They had been the subject of student concerns for several weeks which was a different scenario than the first time these girls took the mini-course in seventh grade. Two of the six were on the fringe. They wanted to be a part of the friend group, but were more committed to academics. They cared about school and wanted to do well. Of the remaining girls, one was in sixth grade and one was in seventh grade. Both girls were quiet and a little intimidated by the eighth grade girls. They sat apart and watched. Of the five boys, three were in seventh grade and two were in eighth. One of the eighth graders and two of the seventh graders were quiet and studious. One of these three happened to be my son. The second eighth grader was placed in the class and didn't want to be there. The remaining seventh grader is a charismatic boy who is well-liked and friends with my son, so I know him in both a personal setting and school setting. He is gregarious and funny and doesn't appear to take academics too seriously, even though he does well in school. It is cool in middle school to act like you don't care about school even if you secretly do. All thirteen students had printmaking projects in fourth and fifth grade, so everyone had some prior exposure.

With a good percentage of the class repeating, and the knowledge that all have some experience with printmaking, I chose to open with *Chalk Talk*. *Chalk Talk* is the routine most like something I would do at the beginning of a lesson with students before I was familiar with thinking routines. The key thinking move in chalk talk is uncovering prior knowledge, ideas and questions. I had written PRINTMAKING in the center of the board and ask the students, "What do you think you know about Printmaking?" The routine is an open-ended activity that calls for

someone to scribe student remarks. Students usually write their own responses. In this case, I asked students to respond verbally so I could write what they say on the board. Yet I was not writing much, because they weren't saying much. Even the students who had taken the class before were not eager to speak up. They looked at me with a blank expression, as if I had asked a trick question and they weren't falling for it. Normally chatty students were not talking. The eighth grade girls whispered to each other. Someone finally said transferring an image. Another said it involves a brayer and ink. Another said it's like stamping. Someone mentioned the tree prints from elementary school. I recognized the uncertain social dynamic was driving the experience. A positive classroom culture has not yet been established. The body language communicated disengagement. The routine wasn't helping open up the conversation. The prevailing atmosphere discouraged risks as students were feeling out the situation and working through some of their fears.

I had planned to follow the thinking routine with an instructional video and a three color mono print project. I put aside the routine and pulled up the video, hoping to spark some enthusiasm through hands on involvement. All of the students had created a single color mono print before. This project builds on that experience. After the video, I explained the materials set up, reiterated the main instructions and the students got started on the project. I had set up six long pieces of Plexiglas, roughly 30" long and 8" wide, for two or three person teams. The three color print and a ghost print were to be created collaboratively. Students were working with a 24"x 8" paper that created long narrow prints with the potential to be stunning.

Just moments into the project, it was apparent that students had superficially attended to the video as well as my instructions that followed. They worked in a careless manner, many were goofing off and not really paying attention to techniques. They were using too much ink, and

getting sloppy results. I consulted with each small group, hardly able to keep a step ahead of the mayhem. One of the eighth grade girls painted her hands entirely with gold ink. Others followed suit and began playing in the ink, intentionally putting it on their hands and trying to touch each other's faces. The class ended early for extra clean up time. I was upset about the experience and worried about how to turn the classroom culture around.

When students arrived the next day, we pulled the prints from the day before from the drying rack without discussion. With the prints laid out on the table them in front of them, I showed the instructional video again. I asked the students to watch the video closely, reflect on their technique and compare their prints to the instructor's prints in the video. Setting the video up as

Eyes widened with realization and hands shot up. As students watched the video again after having tried the technique for themselves, they were able to identify what they had done poorly and better understand why it made a difference. The students learned for themselves through their own mistakes the importance of attending more closely to what they were doing and concluded using the right amount of ink was one of the most important factors for success. Even though they had prior experience, this key aspect of successful printmaking was relearned through the exercise. *Chalk Talk* was much more successful when students were engaged in making sense of their own experience. When reflecting, I recognized there were other thinking routines that could have worked just as well as *Chalk Talk*. For example, "*I used to think, now I think*" is a routine for reflection and metacognition used to help student reflect on how their thinking has changed over time. Even though in this instance, the reflection and realization of how their thinking changed was just one day to the next and the format was different. I connected with thinking routines as a way to engage students in reflective discussion after a

physical, hands on, kinesthetic experience. I had only to look at the key thinking moves in the center column of the *Visible Thinking Matrix* to identify several routines that would accomplish the thinking goals for this scenario. The before and after comparison through experience was very powerful learning today.

An important aspect of creating a culture of thinking is an environment filled with the documentation of thinking. I left the *Chalk Talk* comments on the board as a visual reminder. “This is what you learned. When you are working today, you have your own realizations to guide your actions.” I was disappointed that two boys (the disgruntled eighth grader and the charismatic seventh grader) had dropped the class. The students who returned on the second day had an experience that contrasted sharply with the first and set an entirely different tone for the rest of the course.

This is the kind of experience that creates the opportunity to advance a growth mindset in the classroom. I recognized the value of watching the instructional video again AFTER doing what was demonstrated ourselves, which was not originally what I had planned. It gave me a propitious chance to share the first guiding principle of the class: Learning how things work is the key to problem solving and opens the door to innovation and creativity. Knowing how something works gives you the ability to more intelligently evaluate your results and make adjustments.

Another positive outcome was that students were now in a better place to cooperatively discuss how they wanted things to work in our class. It was generally agreed that yesterday’s class was a little out of control. A few hung onto the fact they had fun at the time, but agreed the class was too crazy. One of our third grade teachers told me she has her students close their eyes when she wants them to reflect. She suggested when students closed their eyes they were more

likely to pay attention to what is in their minds instead of what is in the room. I asked the students to close their eyes. Imagine you are an artist working in your own studio. How would you treat your art materials? What does how we treat our materials say about us as artists and learners? We take care of what we value. The demeanor of the class had shifted.

I wanted the students to take some ownership of their learning by allowing them to reflect on the first day of class and participate in setting a different standard for the class moving forward. For this process, we used the *Micro Lab* routine. *Micro Lab* is a protocol for focused discussion used as a prompt for reflection and thoughtful conversation around a specific topic. The protocol is designed to give equal voice to all students by allowing a few students to share, taking a moment for the initial comments to sink in, and then sharing additional thoughts or building on other comments a few students at a time. To begin, I asked, “What can we do differently? What can we do better?”

I suggested our discussion could help create essential agreements for our class. The first student to speak suggested teams work on the same Plexiglas, but create individual prints by working on either side of the midpoint. Rather than sharing accountability, this change restored individual control of the results. Not surprisingly, this was suggested by one of the students who was more serious about her work. She expressed that being solely responsible led to greater investment in the outcome and made you less likely to get silly and regress to playing with the materials. Several other students offered support for this idea, then we stopped for a moment of quiet. The next small group of students to speak addressed the social issue. First one, then another acknowledged that being good friends with someone didn't necessarily make them a good working partner. It was important for the social dynamic to change and this acknowledgment allowed students to switch partners without any social drama. How best to

work and learn was prioritized over the social agenda. The remaining students talked about how important it was to pay attention to your results and change something if you aren't happy.

Through the *Micro Lab* discussion, we created three standards.

TABLE 4.7: Printmaking Essential Agreements

Printmaking Essential Agreements
1. Take responsibility for your own success – mistakes are opportunities to learn
2. Sit by people who help you do your best work. Don't take it personally if someone needs to move so they can work better.
3. Success comes through effort – do your best - evaluate your results, try to figure out what went wrong, make adjustments and try again

Working side by side turned out to be a potent learning activity as students could compare how much ink they were putting down and the prints they pulled as a result. One of the students hit the perfect balance and pulled a number of successful prints one after the other. Others took notice, wandered over to watch and solicited information, “How did you do that? How did you get your print so perfect?” They listened more intently to their friend and classmate than to me on this very subject the day before. They were raptly attentive to her demonstration and explanation, “I put very little ink on the plate but then I spread it really well,” Students began experimenting with different amounts of ink. Some of them were using so little ink they went in the opposite direction, under inking the plate. The value of this exercise was huge. Instead of watching me demonstrate and hearing me say, “do this, don't do that”, students were looking and listening to each other, talking about their results, and looking closely at their own work for information about what to do differently. Results became connected with effort and perseverance. I heard comments like “this print isn't as good because there was too much ink on the brayer.” Instead of “I stink at this,” I heard “I'm going to try that again”, and “I'm going to try what you did,” There were plenty of prints pulled that weren't very good as well as some that were very successful. But the quality of the experience was worlds better than the day before.

The students were owning for themselves the change in results from the adjustments they made in process. It's a game changer when students realize they have more control over their outcomes now than when they started because they learned something about technique that made a difference.

One of the girls drizzled ink across the Plexiglas plate. I don't know if she began with the intention of drizzling, or if she accidentally drizzled ink as she spooned more onto the plate. In any event, she was intrigued by the idea that she could create an interesting pattern with drizzled ink and wanted to try making a mono print using that method. The first print was disappointing. The pattern squished together because the ink spread out more than she anticipated where it was thicker. She worked in earnest to discover just how thin a line needs to be to maintain the integrity of the original drizzled pattern. This is a fitting example of where I want students thinking to take them. I want them to get to a place where they are working for their own satisfaction rather than mine. Or at least parallel to mine. I want them to find something that captures their imagination and motivates them to answer their own questions; honing their skills through trial and error, practice and authentic growth. If and when they deviate from my instructions or the teacher-led project, let it be for this purpose. Let it be because their work has taken flight and become something personal and meaningful to them; play with a purpose.

I attended a workshop at the 2012 GAEEA conference entitled, "Giving up control without losing control: A young teacher's adventure in less traditional teaching". James O'Donnell, a high school art teacher, talked about his methods for putting students in charge of their learning without losing control of the classroom. He believed students needed to identify their own standards of achievement, noting that achievement looks different for individual students. He developed a matrix of assignments that made the level of skill and cognitive

demands transparent; his version of making thinking visible. By framing assignments as leveled, he allowed the students to more objectively evaluate their starting level and set personal goals for the level they wanted to achieve. Students were not graded according to level, but according to effort and progress toward meeting their goal. Mistakes and failures became a measure of effort and a way to demonstrate progress as students learned what not to do, refined their practice, made adjustments and tried again. This recollection encourages me to work out something similar for classes that have students at multiple levels in the same class. I am also led to revisit the matrix of thinking routines to explore what can work for different class situations. I recognize that allowing students to come to their own conclusions through authentic experiences is a powerful way to learn. We can trust students to reach meaningful, genuine conclusions if given the opportunity to make mistakes, reflect on outcomes and revise their practice. Thinking routines can be an excellent vehicle for organizing and displaying the reflective thinking process and documenting changes in thinking driven by the reflection.

4.4. Cartooning- Session Two: Making Meaning

In Cartooning as in Printmaking, peer influence was a strong force that shaped the class. The students repeating the class were invested in preserving the classroom culture they helped create. When I suggested we decide collaboratively what learning would look like for our class, the repeating students were quick to defend the ways things were done last time. They expected to continue having Doodle Monday and Film Friday and three days of more intense work in between. It is impossible to have a fresh conversation as we did in the first cartooning class with this hybrid. I am drawn to the structure created in the last class as well. We had collectively figured everything out and students were completely invested because everybody had a voice. The new students are swayed by the enthusiasm of the repeaters and agree to keep things the way

they were in the last cartooning class....without necessarily sharing the same level of commitment.

The repeat students walked into the class with individual goals that took up where they left off in the last class. Four are into caricatures and one wants to continue working on a full length original comic book. The *Compass Points* thinking routine gave me a rich well of insight upon which to build lessons in the first session. Two weeks into the class, I realized I was still making assumptions and decisions from that investment of time and energy. The first session influenced the second session throughout the six weeks. I felt that failing to collaboratively establish a shared understanding about expectations left some students in an odd place between achievement and apathy. They sort of cared and sort of didn't. They enjoyed success but weren't driven. The flip side of independent learning is how little some will do if unmotivated for any reason. The first skill based assignments, designed to help students get better at cartooning, were completed with little joy or enthusiasm. After two weeks of subpar output, and several attempts to ignite personal interests it was time again to think about thinking. On Thursday of the second week I described what I saw. I said some of you don't seem to be enjoying what you are doing very much. You are here by choice and you are invited to be the author of your own experience. Dare to imagine the class being exactly what you want. When you go home today, think about what you would like to see happen in this class and come back tomorrow with some ideas.

We began class the next day with a lightening round – a quick trip around the table with every student telling me one thing they wanted to do. This would have been a good place for a thinking routine, but I didn't think of that in the moment. I expected students to reach a thoughtful answer, but I did not facilitate the thinking process. The thinking that took place, whatever it may have been, was certainly not visible to me. I think using one of the routines in

this circumstance would have allowed me to get inside my students' heads and better understand their stance. It may also have given me the information I needed to guide students to think more deeply. Students did seem to be in a better position to identify specific goals. Revisiting this conversation was a way to get students to seriously consider what they wanted out of this class.

I decided to use *Micro Lab* again as a way to prompt students to reflect and engage in a discussion about creativity, inspiration and learning. I explained the concept of flow as the state of mind we get into when we are completely absorbed in what we are doing. I asked, "What gets you to that place where you find your flow? Many associated that state of mind with music. They asked if we could play music in class or if they could bring their own music and listen with headphones. We have a policy against bringing iPods but it's permissible to use Pandora internet radio in the classroom so we began a new classroom routine of playing music every day that people were working quietly. We had a shared understanding that we could have music or a lively conversation, but not both at the same time.

While the second session didn't reach the cohesiveness and culture of thinking of the first, it ended on a high note. Early in the session, I missed a couple of key opportunities to use thinking routines that may have helped establish higher standards of achievement. Differences in the makeup of the classroom drives the choice of routines. I am committed to working out a better protocol for classroom configurations with both experienced and novice students that helps me stay true to constructivist ideals and teach more effectively when dealing with a wider range of abilities, interests and goals.

The high point in this session came through a deeper exploration of caricatures as the whole group became increasingly caught up in the interest and enthusiasm of the five veterans. We had transitioned into the second half of the session when projects are student driven and

personally meaningful. To set the stage for a project in which students reveal something about themselves through their choice of a pop culture icon, I chose a thinking routine called *Headlines*. In the author's example, this routine is used to help students identify the big ideas and important themes in what they have been learning and write it in the form of a headline. I used the routine for its conceptual match with the art of caricature. First, headlines help make pop culture icons. Headline used as a verb means to publicize, star or feature. Creating a caricature is itself about identifying the core feature or attribute to emphasize (publicize or star). The key thinking moves are summarizing or capturing the heart or essence of the subject, which is what caricatures do visually. The routine involves making a quick summary of the big ideas or what stands out about the subject. These concepts worked both metaphorically and literally for caricatures. A student's choice of subject was to be based on the essence of what the icon represents or means to them. The art of caricature involves choosing the most prominent feature or features of the subject to exaggerate or emphasize. The level of engagement and the buzz in the room spiked during this project, because it was meaningful to them on a very personal level. Students chose icons from music, television, cinema, college and professional sports. Among the choices were Snape of Harry Potter Fame, singers Adele, Taylor Swift and Katy Perry, Harry Styles from the band, One Direction, Miley Cyrus, Lady Gaga, The Doctor from Doctor Who?, Verne Troyer from the Austin Powers movies, UGA football player Todd Gurley and professional baseball player, Barry Bonds. Students submitted a headline that best captured the essence of the subject's image, appeal or character and wrote an artist statement that explained how they related to the subject to display with the caricature. An eye opener for me came from students who chose to do caricatures of popular figures they did NOT like. Such was the case for Miley Cyrus, Lady Gaga, Taylor Swift and Barry Bonds. Discussions about the merits and faults

of these subjects were passionate and complex. As students worked they revealed more of themselves than they can know. I am struck with the realization that meaning-making has many faces.

5. CONCLUSIONS AND RECOMMENDATIONS

At the beginning of this study, I expected to incorporate two or three of the core thinking routines into the overall structure of my lessons and otherwise teach as I have been teaching. Once I began using routines, I found appropriate situations for more than planned. The routines turned out to be a valuable resource that supported and organized my teaching efforts to advance thinking skills in my students. They helped me structure my lesson to more purposefully to create opportunities to make thinking visible. They provided a protocol that made the experience more student centered and gave me a way to document student thinking.

It was affirming to recognize routines that paralleled some of my current methods. Even in those instances, the routines were a better way to do what I was already doing; a way to improve upon my practice. I have been creating an art curriculum map as part of my professional development for the last two years. One of the expected outcomes is to better align the curriculum vertically by identifying the learning goals and assessment tools for units and lessons at each grade level for appropriate scaffolding of knowledge and skills. I struggled with the conflict between what I felt my students were getting out of art classes compared to the learning goals and standards on the curriculum map. The learning most beneficial in art was not the learning called out in the lesson plan, finished project and assessments. Especially in the assessments. I had no way of showing the thinking that was happening through the process of looking at, responding to and creating art. Incorporating thinking routines into my lessons provided a missing piece of the puzzle; a way to position art as a conduit for developing habits of mind and learning agility. A way to document and make visible the cognitive benefits of our endeavors. Through thinking routines I was able to frame student engagement as learning about

themselves as much as learning about art, which takes the interaction between teacher and student to a whole different level.

5.1. I used to think, now I think

This research led me to a profound paradigm shift regarding the nature and definition of meaning making for middle school students. I began this journey with an idea that my ultimate goal was helping students develop the higher order thinking skills necessary for creating original work with personal significance. I felt these thinking skills would also transfer to other areas and thus be beneficial across domains. I expected to find a better way to guide students from teacher-led, skill-based projects to higher-order thinking that would support a transition to self-conceived, concept-based artwork that expressed something deep and meaningful within the artist. My research not only met but exceeded my expectations.

Meaning making is complex and multi-leveled. As students learn, they are making sense of things through a variety of lenses simultaneously. Purposeful and meaningful art making may not be so in the way I expected or intended, but if it is meaningful on any level, it has staying power. In the journey of becoming who we are, we are most engaged when what we are doing means something. An experience is meaningful if it has personal significance. Figuring out how things work can be all about skills or techniques yet significant to the development of perception of nuance, aesthetic appeal and refinement of taste that contribute to our sense of self. Skill based activities can be framed to support personal growth in socially significant areas like appreciation, tolerance and empathy. Making meaning through visual art that expresses ideas and beliefs about what matters is just one of the meaning making goals achieved through visual arts.

Visible Thinking Routines and the *Art Investigations* purposefully embedded therein can help frame an art lesson as a meaningful, intellectual endeavor. When thinking is made visible to both students and teachers, the advancement of thinking skills is more evident to all.

I originally imagined meaning making in art as middle school students finding a way to think and respond to contemporary issues, their lives and the world through original art with personal meaning. I thought they would thematically address current events or personal concerns through art. But, thinking routines go farther than facilitating meaning making in art to facilitating meaning making... period. They guide students through the thinking that teaches them how to deal with their everyday lives. They teach them that there are multiple ways to get to the heart of something in order to consider it more deeply and approach problem solving. It helps them become individuals who can make informed and mindful, well considered choices and how to take steps when they are in a situation that is confounding. Everyone needs to be equipped to face problems and figure things out through observing, analyzing, asking questions and thinking to find solutions

Student goals are meaningful to them, even if they are not what I expected or hoped. If their goal is to have fun, or to have the freedom to explore something without a lot of pressure or to take a break from the other stuff that stresses them out.... They are meaningful goals. Student goals do not have to be about becoming a skilled sculptor or an incredible painter. They can be personal and unrelated to being an artist or developing artistic ability. Whether or not an art student wants to be or is capable of being an accomplished artist, they can participate in art classes that teach them how to face something new, break it down, analyze, evaluate and make decisions about how to approach a task or problem... skills that that transcends art making and prepare students for citizenship in a global community.

In my opinion, *Thinking Routines* are an effective way to develop the habit of calling students attention to the thinking requirements of a task and helping them focus on the learning tools they need to perform that task. Initially, the structure and thoughtful design of the routines help build the habit of incorporating learning about learning into teaching. The specific knowledge or content someone needs to perform a given task or solve a problem is situational. Every thinking opportunity includes multiple influential variables. It is important for students to learn how to learn, to know how to think and problem-solve for themselves. Those habits of mind: those skills are foundational. You can bring thinking skills to any task or problem whether familiar or new.

A close friend of mine is the head of the human resources department for a large international corporation. One of our recent conversations turned to what employers are looking for in a contemporary workforce and whether education equips students for the world beyond school. She told me that her company has identified several key skills that are valuable across the spectrum of jobs at every level of employment. First is the ability to work with people; to collaborate. Success in the working world involves being able to work with a team, to listen to others and to look at situations from multiple perspectives. Something else she mentioned was “learning agility”. Learning agility refers to the ability to think and draw conclusions quickly when confronted with new information. Thinking skills are critical to developing learning agility. Helping students develop learning agility is an important goal of teaching.

My son is dyslexic and has struggled through finding his own personal strategies to be successful in different arenas. He is an energetic boy who has trouble sitting still and sustaining attention for long periods of time. He often needs more thinking time than the pace of the class allows. At home, he takes frequent breaks to shoot baskets or do pull ups. At school he has to

maintain focused, remain engaged and find the mental energy to attend beyond what is comfortable for him.

One of the recommendations after our last round of testing was an academic coach. An academic coach is someone who helps you determine how you learn best and gives you strategies and activities that strengthen areas of relative weakness. As an athlete, Clayton understands the concept of speed, strength and agility training in sports. He knows that there are several ways to get better at something. What students are getting in the classroom, in a group setting is often generalized rather than specialized instruction. When Clayton goes to practice, he knows the coach is most often focused on how the team is working as a whole. Gaining a personal edge, however, has more to do with what he does over and beyond team practices. For students to gain a personal edge, they must participate in activities that do more for them individually than the generalized classroom instruction. Thinking routines are like speed and agility training for the classroom – that's the edge – the leg up that a teacher can give students in learning just like athletes can gain that advantage on the playing field.

A popular 1999 American–Australian science fiction film depicts a dystopian future in which people are trapped in a simulated reality called "the Matrix" that was created by conscious machines to subdue the human population, in order to use their heat and electrical activity as an energy source. The lead character, Neo, is spearheading a revolution against the machines and his success depends heavily on the extent to which he can fully perceive reality. There's a defining point in the story at which Neo is able to genuinely see the matrix ...he can actually see the streaming code that created the unquestioned illusion of reality. Neo is no longer fooled or limited by the artificial world around him. He gets what is really happening on a cellular level. I think of the matrix when I think about the net effect of teaching kids to think for themselves and

make natural connections across disciplines. At first it's a push. We are helping them train their brains. We are facilitating the transfer. The effort to make the connections may be greater because they are learning to learn, growing their ability to connect, extend, relate, associate and create. Then one day, they start to really see the interconnectedness of all knowledge and they are changed. They can't turn it off. Thinking and making connections becomes a part of who they are and the way they navigate the world. They are equipped to evaluate new things against the vast store of what is already known. They have developed learning agility. That is what is truly empowering about meaning making. The learner is unbound by discipline; unlimited by the content or the vehicle by which the learning happened. The learning has far transcended the experience of whatever was in front of them. Ultimately, the outcome isn't about the project or the medium or the physical manifestation of ideas. The benefit is all of that thinking and problem solving and learning that takes place in the process that can be used elsewhere, no matter what the future holds. That's teaching for their future instead of our past.

5.1.1. Tips for Teachers

I recommend and endorse the methodologies evaluated in this study as powerful tools for helping students makes sense of the world, themselves and learning. Through my experience with *Visual Thinking Routines* and *Art Investigations* over the past year, I have created a list of tips for teachers interested in implementing these methodologies into their regular visual arts classroom.

1. Thinking routines are tools for building a culture of thinking that reap benefits over time.
Don't be discouraged if things do not go as expected. No single experience can define the failure or success of the methodology.
2. Routines aren't magic – they need to be well suited to the task and properly framed.

3. Looking at the routines and identifying the ones that may be close to some of your existing methods is an easy way to incorporate *Visible Thinking Routines* into your lessons.
4. To help build a culture of thinking, add a thinking standard to your instructional goals for students and include thinking skills in your assessments.
5. Post the *Visible Thinking Matrix* on your bulletin board for quick reference to support building the thinking about thinking habit. Make it easily accessible when planning a lesson so you can quickly find a routine that supports the kind of thinking you want students to do.
6. Mix it up –Use a thinking routine anytime during a lesson to facilitate the type of thinking you want students to do. Don't be afraid to adjust the routine to fit your purposes.
7. Several of the thinking routines can be used to investigate works of art. *Art Investigations* is a thinking routine unto itself and some of the thinking routines work like *Art Investigations*. *What makes you say that?* is almost identical to the methodology of *Art Investigations*. *See, Think, Wonder* and *Color, Symbol, Meaning* use the same thinking moves.
8. Show off student thinking: Using thinking routines provides a way to talk to members of the community about the value and cognitive benefits of what students are doing in art class.

5.2. Recommendations for future research in the field of art education

Future research in the field of art education that would be significant to understanding the impact of using thinking routines would be a comparison of results between different learning environments. How would the results compare between public vs. private schools. How effective would the routines be in schools with different pedagogical philosophies; in traditional vs. progressive schools, for example? To what extent would these routines be effective with more diverse learners such as students with learning disabilities or from different socioeconomic

backgrounds? Such a comparison would yield a more comprehensive picture of the implications in art education when thinking routines are a regular part of the art classroom experience.

5.3. Arts Advocacy

Using thinking routines in the art classroom changed the nature of my conversations with parents and teachers, genuinely contributing to the understanding of visual arts as an intellectual experience beneficial across domains.

At the annual holiday party I had the chance to talk with our finance director over a plate of tiny sandwiches and bite sized desserts. Our jobs couldn't be more different. The Director of Finance deals with department budgets and approves capital expenditures. She studies statistical data and conducts cost/benefit analyses. She meets with leadership team to discuss cost cutting measures and has every line item documented and justified when the auditors show up. Given this opportunity to chat, she politely asks what students are working on in art these days.

She has asked a bigger question than she knows. The short answer is ceramics. But ceramics isn't the best answer. It is not an answer that will help a person with no picture in her head of what goes on in my classroom really understand. So, I talk instead about the thinking that is happening in the art room. I explain how we purposefully connect with other disciplines, talk to her about my research of thinking routines and how I intend to help students understand how all knowledge is interrelated. Nancy is leaning forward, eyebrows raised. "Have you shared this with Merritt (in marketing)?" she asks. "Do parents know this? You should tell them what you just told me. They should hear how much more you are teaching than they realize." I am trying to figure out how to do that, I tell her. Now that I have made thinking visible in the classroom, I am asking myself how I can make my students' thinking visible outside the classroom. That is my next quest.

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