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**Reflexive Capacity Building:  
Visual Art Education as a Culture  
of Thinking and Learning**

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## An Introduction to ATINER's Conference Paper Series

ATINER started to publish this conference papers series in 2012. It includes only the papers submitted for publication after they were presented at one of the conferences organized by our Institute every year. The papers published in the series have not been refereed and are published as they were submitted by the author. The series serves two purposes. First, we want to disseminate the information as fast as possible. Second, by doing so, the authors can receive comments useful to revise their papers before they are considered for publication in one of ATINER's books, following our standard procedures of a blind review.

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**Reflexive Capacity Building:  
Visual Art Education as a Culture of Thinking and Learning**

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**Abstract**

A general lack of understanding exists regarding the arts in education and developing successful and synthetic intelligence. Despite decades of rhetoric, the arts are still limited by policy makers to the improvement of student engagement and not much more. Ingalls Vanada contends that in order to develop student innovation, creativity, and for the sort of resiliency needed in the 21<sup>st</sup> century, the arts in education cannot be ignored. Perhaps the field of art and design is focusing on the wrong question. Instead of ‘what curriculum’ we should be asking, ‘how do we transform art classrooms to develop students’ capacities to be synthetic, 21<sup>st</sup> century thinkers and problem solvers?’...or ‘how might design-based frameworks provide a capacity-view of art education?’

If the goal is to educate creative, innovative, and balanced thinkers who can deal with ambiguity and process deeply, it is time to rethink how the arts are taught. This paper attempts to establish a vision of capacity building that may be a more near possibility when valued for the development of art and design students’ critical, creative, and practical skills and dispositions. This paper sheds light on how visual art, when not operating as a separate silo, can promote a dynamic culture of thinking and learning. Research on learner centered visual art classrooms shows the value of reflexive and constructivist pedagogy, curricular balance, and inquiry based practices for creating learning power. Design thinking models are considered for facilitating authentic, connected, self-directed, and meaningful investigations that may positively support students’ overall capacity.

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*'The aim of education should be to teach us rather how to think, than what to think—rather to improve our minds, so as to enable us to think for ourselves...'* (Beattie, B., in Denbow, J.; 2004, p. 19)

In the pursuit of global competitiveness, educational systems have invested in a narrow subset of academic subjects to prove student and school achievement (Eisner, 2002). Since the launch of Sputnik (NCEE, 1983), the U.S. has primarily looked to science and mathematics to develop the innovative and creative capacities of students. In more recent years, engineering and technology were added to the list to create STEM (science, technology, engineering and math), in the hope of building a competitive future workforce. Despite realizations that an intersection of the arts with the STEM fields advances innovative thinking, rhetoric of the arts as core academic subjects is still in conflict with the reality that their contribution to building student capacity is overlooked.

In a recent national town hall meeting with U.S. Secretary of Education, Arne Duncan (Atlantic Live, 2012) entitled *Jobs & Economy of the Future: Educating the Next Generation to Compete*, I asked: 'What are we doing to advance the role of arts and design, *along with* the STEM subjects, in order to build 21<sup>st</sup> century students' creative and innovative capacities?' Not only did Mr. Duncan not answer the question, but platitudes were given for increasing student engagement alone. He called the arts 'core', then referred to them as 'extra curricular' subjects (Atlantic Live, 2012). If national leaders cannot attest for the advancement of cognitive and personal learning capacity through arts education, then there is no wonder why they continue to be placed on the fringes of political and financial support.

Meanwhile, growing concerns among business and educational leaders alike are forcing reform conversations surrounding millennial students' college and career readiness, as well as how to increase their innovative skills and dispositions (Pink, 2005; Wagner, 2012). Largely from a 21<sup>st</sup> century workforce perspective, Wagner (2012) speaks to the great need for creative, innovative learners and asks: How do we create the conditions at home, in our schools, and in our communities in which students can create, learn, produce, and innovate? His research points to the difference that learning environments make in students' balanced skills.

Like Wagner (2012), this paper goes below the surface of increased test scores, toward the deeper need for increasing individual capacities for deep understanding and innovation. In a systems-thinking approach to educational reform, our global health ultimately depends upon investing in each learner as a whole and creative person. This paper asserts that placing the focus on capacity building through the learning and living culture—one enhanced through and with quality arts education—may better support a generation fully capable of making the difference they desire to be in the world.

#### *The Purpose of Education?*

Let's revisit the fundamental purpose of education. In ancient Greece, Socrates argued that education was about drawing out what was already within the student (the word education comes from the Latin 'educere' meaning 'to lead out'). 'Fast forward' to 19<sup>th</sup> century industrialization, in which students were viewed as economic benefits essential to the social order (Bates, 2000), a notion still existing in 21<sup>st</sup> century education. However, it is clear that a supply and demand discrepancy exists. Today's demand for innovative, adaptive, independent learners is at odds with 19<sup>th</sup> century production-line models that value equivalence over creativity (Robinson, 2001).

John Dewey (2008), along with those more classically aligned (Sayers, 1947), recognized that teaching students how to think may be more important than teaching them what to think. In 1947, Dorothy Sayers advised that schools must give students the tools they need to unlock the doors to learning—not teaching what to think as much as how to think and revisiting the classical Greek subjects of the Trivium in order to foster analysis and mastery of subjects. Sayers promoted Socratic methods as a way of producing better thinkers, creative problem solvers, and synthetic learners. Halpern (2006) claimed that an education for life in the 21<sup>st</sup> century must be built on the twin pillars of learning how to learn and how to think critically about the mass amounts of information that confront students.

This paper supports the thesis that expanding students' capacities to learn is a valid end for education and for art education—less from the standpoint of economic competitiveness, and more from a concern that learning and teaching systems must be designed to nurture the potentiality of every student (Robinson, 2001).

*Expanding the Capacity to Learn: A Valid 'End'?*

In this culture, young peoples' capacity for growth and learning has been hampered by a focus on what to learn in order to pass a test, compared to how to develop deep and critical thinking (Sayers, 1947). Students often lack the intellectual prowess that comes from grappling with complex questions that do not have easy answers, as in study of the humanities (Ferrero, 2007), or an ability to 'embrace the ambiguous' (Eisinger, 2011, para. 11). Current systems' reliance on linear, logical, and compartmentalized knowledge has left students unprepared for solving the challenges of the 21<sup>st</sup> century (Gardner, 2007). Each nation's future depends upon actualizing the gifts of its citizens says, Senge (2002): 'As the world becomes more inter-connected, organizations that will truly excel in the future will be [those]...that discover how to tap people's commitment and capacity to learn' (p. 4). By expanding learning and achievement on an individual level, the goal is to prepare students to be flexible, adaptive thinkers who can be a part of creative solutions in the complexities that lie ahead. Everyone has quick access to facts; what is needed is more emphasis on depth and meaning in environments that foster and empower students' balanced thinking capacities and dispositions (Ingalls Vanada, 2011; Sternberg, 2008).

Within the arts, a vision of capacity building may be a more near possibility when curricula and cultures are designed to produce synthetic and balanced thinkers, and they are taught with that end in mind. I argue that an equitable and reflexive education can be realized when art and design education is considered for its potential to allow students to construct deep which contribute to their 'successful intelligence' (Sternberg, 2008; p. 10)—environments that I name as *dynamic* and reflexive learning environments. Learner centered pedagogies that support student inquiry, connection making, and student self-direction also promote the realization of this vital goal (Ingalls Vanada, 2011).

*A Broader View of Intelligence*

Cognitive research supports a holistic, broad and expanded conception of learning and intelligence (Bransford, Brown & Cocking, 2000; Gardner, 2007; Resnick, 1999; Sternberg & Grigorenko, 2004). Gardner (2007; p. 1) identifies 'five kinds of minds' that are pivotal for success in a globally connected world—the disciplined, respectful, ethical, synthesizing, and creative minds by which students integrate disparate information, combine it into a coherent whole, and then find new problems and questions, in order to solve them. Robert Sternberg (1996, 2008) has proposed that one's successful intelligence consists of a composite of analytical, creative, and practical skills and dispositions. Analytical skills (operating in tandem with creativity)

are necessary for solving problems, creative skills (in tandem with the analytical) for the generation of good ideas and problem-finding, and practical skills for getting things done and seeing them through to fruition. Additionally, successful intelligence theory says that aptitude is not fixed; people can capitalize on their strengths and strengthen their weaknesses.

Brain research and imaging indicates that focused involvement in the arts improves neural attention networks leading to improved overall cognitive ability (Posner, Rothbart, Sheese & Kieras, 2008). Damasio (1998) finds that the arts develop both emotional and cognitive parts of the brain, leading to deep learning and the development of imagination, necessary for innovation. These research findings regard learning capacity as expandable and multifaceted, and in turn, point to needed changes in pedagogy, curriculum, and assessment. Existing paradigms at every level of education perpetuate a silo mentality of knowledge construction perpetuated by Enlightenment notions, but a more integrative and knowledgeable view is needed (Robinson, 2007).

The arts hold the potential to develop exactly the kinds of minds that Sternberg (2008), Gardner (2007), and Posner (2008) are talking about, but until we are willing to connect ourselves with other disciplines in the sake of capacity building, the arts will continue to be aligned with more narrow definitions of intelligence.

To find the keys to change, schools and classrooms must be considered as dynamic systems—living cultures of learning (Senge, 1990; Argyris & Schön (1996). We must look underneath the noise of clamoring agendas to what lies deeper: the development of potential—the capacity—of each child, teacher, and school leader. This paper contends that existing within arts education is the ability to set aflame (when operating in tandem with others) the true capacity of each person as whole and living beings.

#### *Learning Capacity Defined*

What does it mean to develop capacity? From the aspect of cognition, capacity has to do with the process of learning and coming to understand; it leads to active use and retention of knowledge. Lauren Resnick's research (1999) at the University of Pittsburgh indicates that learning capacity is expandable and can be advanced through focused effort, quality engagement, and the motivation to work hard. In this complex view, being smart has very little to do with ones' intelligence quotient (I.Q.), nor is it fixed at birth (Resnick, 1999). It is not correlated with class, gender, national origin, or race. Rather, high levels of achievement can be experienced by all students. Through this lens, learning capacity is affected by the teaching and learning culture, which in turn, affects students' self-beliefs about their abilities (Resnick, 1999; Ingalls Vanada, 2011).

Capacity has to do with developing balanced thinking skills as well as dispositions. The cognitive processes of thinking, knowing, and understanding are also affected by emotional and personal security, the ability to handle ambiguity and change, an ability to stand up for one's beliefs, and the acceptance of others' ideas and beliefs. Research reveals that an education in the arts helps to provide such dispositions, including self-esteem, motivation for learning, and self-confidence (Deasy, 2002). The short-sighted aim of increased test scores as an indicator of student achievement cannot claim the same sort of competence.

Teacher pedagogy, reflexive curricula, and teaching environments which purposefully support (1) balanced thinking and dispositions, (2) constructivist practices, and (3) a culture of thinking and inquiry may positively support students' overall capacity. To this end, design thinking models in the arts are needed for



facilitating authentic, connected, self-directed, and deep investigations into meaningful concepts (Burnette, 2005).

*Building Powerful Thinkers: Dynamic Classrooms*

If the goal is to educate synthetic, creative, innovative, and balanced thinkers who can deal with ambiguity and process deeply, it is also time to rethink curriculum and pedagogy. A myriad of philosophies regarding the purpose of art education have affected what and how it should be taught, as well as fueled an ongoing debate in the field (Bates, 2001, Chapman, 2004, Eisner, 2002). Some have promoted contemporary practices that elevate visual culture and more socially relevant, issues-based pedagogies (Gude, 2007), while others have been less apt to let go of project-oriented skill sets. These ongoing disagreements have marginalized the role of the arts in education (Bamford, 2006) and prevented policymakers from linking arts and design education with overall intelligence from a capacity view.

Not intending to argue over various foci of art education, this paper explores the arts and design as critical to the training of independent, life-long learners who possess a balance of thinking and process skills as well as the social/emotional dispositions to navigate the changes of 21<sup>st</sup> century life. Instead of arguing over ‘what curriculum?’ a better question might be, ‘how do we transform art classrooms to develop students’ capacity to be synthetic, 21<sup>st</sup> century thinkers and problem solvers?’...or ‘how can design-based frameworks provide a capacity view for developing thinking?’ When art teachers model a spirit of collaboration and excitement for learning—not operating as ‘lone rangers,’ but portraying learning as a connected, school wide adventure, students’ higher-order thinking skills emerge (Owens & Valesky, 2007; p. 280).

In order to train independent, flexible learners who possess a balance of thinking and process dispositions, research points to the importance of dynamic, learner centered environments that can promote deep understanding when they are designed to include the constructs of connection making, inquiry, and self-direction (Ingalls Vanada, 2011; Sternberg et al., 2004).

Art and design classrooms serve as catalysts for expanding students’ diverse ways of viewing the world and penetrating differences (Goldblatt, 2006, p. 26), serving to promote ‘life-deep’ learning (Banks et al., 2007, p. 12). A reflective and reflexive pedagogical approach in the arts allows critical conversations about cultural conflicts and realities, and ethnic identities—toward the goal of bringing awareness to students’ commonalities rather than their differences.

*Balanced Learning Cultures Promote Capacity*

Narrow conceptions of intelligence have failed to take advantage of students’ unique patterns of learning as a balance of critical, creative, and practical skills and dispositions. In order to have an impact on students’ balanced intelligence, teachers must be purposeful about the learning and thinking culture they create (Ritchhart, 2002). Sternberg and Grigorenko’s research (2004) affirms the impact of teaching for and with balance to bring out students’ optimal understanding and application of knowledge. Learner centered environments that employ student self-direction, connection making, and inquiry-based practices have also offered significantly positive differences in middle school art students’ ability to think in balanced and complex ways (Ingalls Vanada, 2011).

Balanced thinking is not simply a matter of acquiring a set of skills; it also involves the development of specific *dispositions*—the inclination, sensitivity and motivation to act upon one’s skills in synthetic, multidisciplinary ways (Perkins et al., 2004). Claxton (2006, p. 10) emphasizes that students’ ‘learning power’ is comprised

of a collective mix of dispositions, lived experiences, social relations, values, attitudes, and beliefs that shape an individual's engagement and capabilities. Nurturing students' dispositions for learning will allow them to become directors of their own learning and build their learning power.

According to Claxton (2002), the four key learning dispositions of powerful learning include resilience, resourcefulness, reflection, and reciprocity (or relationship). Together, these dispositions, often found in more learner centered, environments affect and expand students' overall capacity to learn and achieve. In the arts, students who hold a belief that their abilities are expandable, achieve because they are motivated to risk and persist in challenging tasks that affect their intelligence and achievement (Posner et al., 2008).

#### *Constructivism in the Art Classroom*

Learner centered environments tend to be more constructivist in nature; they promote deep understanding and powerful learning through first-hand experience, as connected to and integrated with other areas of inquiry (Dewey, 1938; Piaget, 1954). Art, as a domain, is not devalued through interdisciplinary inquiry; rather its power and scope is magnified (Marshall, 2006). When the arts are connected to big ideas and essential questions, student capacities are enlarged (Walker, 2001). In the U.S., North Carolina A+ schools model art-specific and integrated arts instruction that indicated notable academic gains, even while serving larger proportions of minority students than the State overall (Nelson, 2001). In a connected way, dynamic cultures of learning are created that prepare all students to be synthetic, creative, flexible, and critical, lifelong learners.

Art classrooms designed to be more constructivist, provide opportunities for students' deep and sustained learning, connection making, and meaning making. They enhance quality thinking skills along with deeper engagement (Posner et al., 2008). In these classrooms, there is more of a focus on dispositional aspects that support intelligence (Bransford et al., 2000; Claxton, 2006; Ritchhart, 2002). Ingalls Vanada's mixed model research (2011) revealed significant positive correlations between students' quality of thinking in more learner centered art classrooms (using the variables of inquiry, connection making, self-direction) than students in less learner centered classrooms (.935 at the .05 level). Her research also indicated that students' self-beliefs as learners and artists were significantly higher in classrooms ranking higher in learner centeredness (.933 at the .05 level).

The information age forces a paradigm shift in the role of teachers as primary dispensers of knowledge to facilitators and guides. Educators must encourage questioning, incorporate balanced, deep and collaborative learning and change the narrow canon of assessment practices, while serving as role models of curiosity, open-mindedness, and collaboration. Albert Einstein's comments on nurturing creativity through inquiry are appropriate here:

*'It is, in fact, nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to rank and ruin without fail. It is a very grave mistake to think that the engagement of seeing and searching can be promoted by means of coercion and a sense of duty.'* (as cited in Eves, H., 1988).

Hargreaves (2004) reminds us that pedagogy, at its best, should be about helping students learn and actively strengthening their capacity to learn. Teachers with a

constructivist ontology tend to employ student centered learning goals, inquiry, and connection making and have been found to promote students' self-direction, self-efficacy, confidence, motivation, and desire to learn (McCombs, 1994). Teachers tending to rely on sameness, predictability, and focus on the end product are challenged to take greater risks toward student choice and self-direction, inquiry and design based processes, and investigations into big ideas.

#### *Conclusion*

Standards-based curricula and standardized testing have not assured that students are better prepared for 21<sup>st</sup> century challenges. Greater emphasis on math, science, and technology have also not assured that our students are able to think in innovative, deep, complex, and meaningful ways. Compared to other countries ranking higher in overall achievement, who also have adopted platforms including more balanced views of intelligence and innovative ways of thinking (LTS, 2008; NCA, 2008; QCA, 2009), it could be inferred that a more excellent education for all is possible through the learning power that training in the arts affords.

Learning is no longer considered an accumulation of knowledge, but rather the ability to construct knowledge and synthesize information in meaningful ways. As this paper has noted, static, passive views of learning and knowing are challenged to give way to a more meaningful, constructivist epistemologies which include social, contextual, and affective facets of learning (Gadsden, 2008).

I contend that training for creativity and innovation apart from the arts, subjects known to best train for creative, adaptive, and risk taking, is really a waste of time. In order to adequately prepare students with the kinds of expanded abilities and kinds of minds (Gardner, 2007) that 21<sup>st</sup> century living requires—creative problem solving, envisioning with empathy, an ability to think big, and make sense of vast amounts of information—then an education in and through the arts cannot be ignored. When taught with balance, depth, and meaning and with a capacity view in mind, the arts in education hold potential, not only for nurturing students' critical, creative, and practical intelligence and dispositions, but for building life-long learning power as well.

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