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The Need for Arts Education and Alternative Assessment in Light of the No Child Left Behind Act of 2001

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Art Education at Virginia Commonwealth University.

by

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Abstract

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Due to increasing teacher accountability and standardized test score requirements attributed to the No Child Left Behind Act of 2001, this essay examines research of the positive influences of arts education on student academic achievement and social growth. Howard Gardner's Multiple Intelligences Theory and brain research, such as that of Eric Jensen, suggest the necessity for various types of instruction and assessment to ensure that all students' learning needs are met; and to maximize the potential for intellectual growth in each student. Harvard University's Project Zero programs: Artful Thinking, Art Works for Schools, and Arts PROPEL are examined. A+ Schools Program (North Carolina), and various schools and school districts around the United States having arts-rich curricula and high student academic and social achievement are identified. Community Outreach programs: Chicago Arts Partnership in Education (CAPE),Young Audiences of Indiana, the Pennsylvania Ballet show positive arts influence outside of the traditional classroom setting. Research by James S. Catterall, J. Burton, R. Horowitz, and H. Abeles on the question of learning transfer taking place across the disciplines is also examined.

Introduction

In recognizing the need to address the United States' fundamentals of education in an increasingly divergent society, President George W. Bush and the current Administration have embraced and strengthened the *Elementary and Secondary Act of 1965*, by implementing the *No Child Left Behind Act of 2001*. The 1965 Act, administered through the United States Department of Education, was created to establish a universal procedure to measure the levels of student achievement in the United States. The *No Child Left Behind (NCLB) Act* was refined to ultimately ensure the academic success of all students, despite their socio-economic status, and was written to encourage higher levels of accountability on the part of teachers and administrators for the educational success of the students. One of its over-arching goals is to help close the achievement gap in education and guarantee that all students will learn. *NCLB* plans to gauge student achievement by measuring scores on annual State standardized tests. At present, each State is responsible for designing its own test to meet academic standards mandated by the Act. The state tests tend to be similar in format and methodology.

Interestingly, the students that *NCLB* is purported to help, as test results have shown over time, are the very students that will suffer from the law's testing requirements (Neill, 2005). Standardized testing does not accurately represent all of the knowledge students possess. This method of testing, particularly within the context of the *NCLB* Act, limits

students' exposure to a few core subject areas: that of reading, writing and math. These tests do not allow the students to demonstrate that they have established skills or knowledge in other core subject areas, particularly in the arts. The arts offer alternative methods of communication that cannot be expressed or explained in a timed paper and pencil format. Elliot Eisner (2005), professor of education and art at Stanford University, maintains that, "...neither words nor numbers define the limits of our cognition; we know more than we can tell" (paragraph 9).

The United States Government's education program, *NCLB*, theorizes that the results of standardized testing will help determine which teaching methods work best for students. Standardized testing, the Government claims, aims to identify the best learners, and the smartest students across the United States, and to determine how and what the highest-scoring schools are teaching. After *NCLB* identifies the successful methods of teaching, techniques on implementation can then be applied to all schools in America. This is based on the stipulation that these successful curricular programs would be a product of scientifically- based research (Chapman, 2005). The programs and curricula that are selected by the government for school implementation are to be proven through quantitative and qualitative research that students' academic achievement will increase.

This research, however, has led to the realization that the schools that achieve higher scores use a much broader spectrum as part of their teaching curriculum, and their students' growth is seen in other areas of development as well. For instance, schools that

incorporate the arts see not only academic development, but dramatic social development as well, according to various studies from the compendium, *Critical Links: Learning in the Arts and Students Academic and Social Development* (Deasy, 2002). While the students in these schools have repeatedly shown growth from the arts experience, brain research also supports that the arts are significantly important in the neurological development of human beings. Activities such as dance, dramatic play, and basic physical movement can actually help to build new brain cells, as well as help students improve their scores on various achievement tests (Jensen, 2001). Brain research also supports Harvard psychologist Howard Gardner's Multiple Intelligences Theory, which in part claims that students are able to learn and remember when various parts of the brain, simultaneously, make connections with each new learning experience (Rettig, 1999).

And yet, although *NCLB* recognizes the arts as a core subject, the arts are not tested; the focus of *NCLB* is for schools to show academic achievement merely in reading, writing, and math. The testing methodology, by design, tends to ignore the academic success students can achieve through their personal strengths or intelligences. Indeed, students should be given more than one method in which to demonstrate their knowledge. Alternative teaching methods and assessments could be incorporated with the standardized testing in order to produce a true measure of learning in a way that is equitable to all students (Hanson, 2000).

A poignant question to ask from arts education research and *NCLB* is what factors influence the success of all students, including students "at-risk", and will knowing the answer change the course of education?

Chapter 1: Core Subjects and Integrating the Arts

The *No Child Left Behind Act of 2001* is a reauthorization and modification of the *Elementary and Secondary Act of 1965*, and the *Improving America's Schools Act* from 1994 (Chapman, 2005). The *Elementary and Secondary Act of 1965 (ESEA)* was initially created to provide federal assistance to impoverished schools and communities, enabling all American children access to education. The *Improving America's Schools Act of 1994 (IASA)*, "reauthorized the Elementary and Secondary Education Act of 1965 (ESEA), with a focus on changing the way we deliver education, encouraging comprehensive systemic school reform, upgrading instructional and professional development to align with high standards, strengthening accountability, and promoting the coordination of resources to improve education for ALL children" (USDE, 1997, paragraph 1). The *Improving America's Schools Act of 1994* was to provide a framework for standards-based reform for elementary and secondary schools, adding accountability and high academic standards.

NCLB is paralleled by an additional law, the *Educational Sciences Reform Act of 2002 (ESRA)*. *ESRA* places emphasis on finding teaching methods that have been scientifically proven to work in educating students. Together, *NCLB* and *ESRA* put into effect the levels of academic achievement expected of America's students within a given period of

time. *NCLB* requires schools to be tested and scored according to their "adequate yearly progress" (AYP). Chapman (2005) defines AYP as a method in which "schools must produce annual increments in test scores on statewide tests" (p.7). Testing and scoring began in 2002, and will continue annually until 2014. The scores are calculated and analyzed to identify which students are not reaching the "proficient or above" standard set forth by *NCLB*.

Presently, AYP is measured only by the scores from standardized tests in reading and mathematics. In 2007, an additional standardized test will be included to measure student learning in science. By the year 2014, the goal of *NCLB* and *ESRA* is for 95-100% of the children in America to reach the "proficient or above" standard in reading, mathematics, and science (Chapman, 2005). If schools are unable to meet AYP, harsh consequences will be delivered. Consequences may fall on students, schools, even entire school districts. A public school that fails to make AYP is classified in one of two major ways; schools "in need of improvement" and schools "under corrective action". Schools that are classified as "in need of improvement" must develop a two year plan for improvement and by the fourth year must show AYP. During this time, students may seek tutoring at the district's expense. Schools classified as "in need of corrective action" are schools that have failed to make AYP after an improvement plan. Teachers of students who do not make AYP could be replaced. The entire curriculum may be replaced with one that is scientifically proven to increase student performance. The management authority of principals and teachers may be reduced. Outside experts may

be hired to advise corrective action. During corrective action, students may transfer or qualify for tutoring at the district's expense (Chapman, 2005, p. 11). However, it is the students who will suffer the most. For example, Ohio's Logan-Hocking School District (located in the Appalachian area of southeast Ohio) is barely able to keep its students' test scores at AYP. If a student at the high school level doesn't pass Ohio's Graduation Proficiency Test, the student will not graduate (Gabriel, 2001, paragraph 2). This example illustrates the intense concentration that the federal government is placing on a student's knowledge of a few subjects.

The irony in all of this is that the *No Child Left Behind Act*, Title IX, Part A, Section 9101(1)(D)(11) defines the core academic subjects as: "English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography" (Arts Education Partnership, 2004) and yet, the program tests only students' knowledge in two (eventually three) out of ten areas. And in what the law doesn't define is how much time and money is to be allocated for each of the "core" subjects. Without a specific ruling on where federal funds are to be allocated within the schools, administrators are left to decide where the money is most needed. Because of mandates to show passing scores in the areas of reading, mathematics and, eventually, science, schools feel obligated to focus on only those subjects.

In various parts of the United States, there are schools and school districts that do realize the valuable role the arts play in education. Various arts programs exist to encourage both academic development and social development in children. Such programs tend to be called "arts-centered", "arts-focused", "interdisciplinary" or "arts-integrated". Research examining schools using the arts to improve their students' test scores, such as the Waldorf Schools (Jensen, 2001, p. 5), have found scientific evidence proving the arts can positively influence academic achievement.

When the arts are integrated into the regular curriculum, it means that the arts classes (dance, drama/theatre, music, and visual arts) are equal in instruction time and focus as with math, reading, language arts, social studies and science. An arts-integrated curriculum tries to balance each of the core subjects and concentrate on a central theme to tie the subjects together. This approach enables students to make connections between events and facts as they relate to each other across disciplines (Krug, Cohen-Evron, 2000). Major themes or concepts that typically would be found in major core subject areas are introduced with the arts. In science, for instance, students might be introduced to various living insects. In visual arts, the students might observe and draw insects, and be introduced to the art of M.C. Escher. Escher created repeating pattern designs, called "tessellations," by using the shape of an insect's body for the design. Students could also create their own tessellations by using the shapes they see in an insect's body. In music, students might sing songs that describe insect behavior, and invent or act out ways that insects move through a drama/ movement class. Students might write a story about an

insect or even a story about themselves as an insect in language arts. As a reading activity, the students could read to the class the stories they wrote. Thru arts-integration, schools can encourage students to use and build cognitive skills, such as problem-solving and critical thinking, as well as help them make connections throughout the different subjects being studied.

In an article from the *Chicago Sun-Times*, Rosalind Rossi (2004) reports on two schools in Illinois that are using arts-integration, and the progress they have made in student scores on the Illinois Standards Achievement Tests (ISAT). The first school, Edgebrook Elementary, in Chicago, found the arts to be most helpful with disadvantaged students and students with special needs. After one year, Edgebrook's test scores jumped from 8th to 5th in the state among Illinois public schools, and ranked 1st in the top 10 Chicago neighborhood schools. Edgebrook's principal, Diane Maciejewski, was apprehensive at first about using core instruction time for music, art, dance, and drama, but after seeing the positive impact the art classes made on all of the students, she wondered why Edgebrook had not started an arts program sooner.

The second school mentioned in the article is Walker Elementary in Clarendon Hills, Illinois. Walker already has a good reputation for scoring well on the ISAT; in fact it is first in the state of Illinois. However, what really impacts the students is the school's total commitment to integrate the arts with the core subjects, and to ensure that all students are receiving the individual instruction they need. Walker Elementary is

fortunate to have an artist in residence; that is, an artist from the community that works on projects with the school, and a full-time music teacher and a full-time art teacher. What is ironic is that these positions are funded by the parents, not the school district.

In schools where the arts are not necessarily integrated into the regular curriculum, some teachers choose to incorporate the arts within individual lessons. For example, teacher Jin Dorst, of Ohlone Elementary located in Palo Alto, California, teaches family history and immigration through puppetry. In combining visual and dramatic art with social studies, Dorst's students are able to connect learning to real life through personal experiences. Another teacher from Ohlone Elementary, Otak Jump, has his students build pyramids to develop math skills and spatial awareness. He feels the students personally connect to the learning experience through the process of problem-solving as they attempt to construct the pyramids with the materials provided and the objective given. The goal is not the end product but the process of constructing the pyramid. Laura Leopardo from Brooklyn Friends School, in Brooklyn, New York, teaches her first graders poetry by having them create three-dimensional imagery to illustrate their poems. She feels poetry is a natural source for images, and in creating the images for the poems, her students are better able to grasp the meanings of the poems (Hale, 2005).

Matheny (2005) provides another example where arts-integration takes place, and this is at the St. Joseph School in Green Bay, Wisconsin, where "the arts teach-not supplement [the core subjects]" (paragraph 9). The administrators of the St. Joseph School (one of

whom is both the principal and the art teacher) observed schools in Alabama and Louisiana that were infusing the arts with the core curriculum. Upon their return, they changed the curriculum of the St. Joseph School. The goals were to enhance learning, improve student achievement levels, increase student enrollment and attendance, and use innovative teaching strategies. With the success of the St. Joseph School's arts-integrated curriculum, more schools in the Green Bay area have modified their curriculum. The schools found the students to be more creative and better able to demonstrate what they are learning through poetry readings, choral performances, and theatre and movement presentations.

An additional promising outcome of arts-integration is how the arts influence students "at-risk" of failing and students from low socio-economic status (SES). These students do not simply have academic difficulties, but have other environmental situations that make it difficult for them to connect with their learning, i.e. abuse, neglect, drugs and alcohol, etc. Some have difficulty attending school on a regular basis. Certain school districts find support through community outreach art programs both with regular school day and after school arts programs. These programs, because of time flexibility, can offer education and experiences that are otherwise unavailable to these students. Community outreach programs provide the arts experiences that add other dimensions to learning because of the opportunities they offer, especially for student expression.

As an example of community outreach, The Chicago Arts Partnerships in Education (CAPE) works with schools that have a high number of disadvantaged students. CAPE creates teams made up of an artist from the community and a teacher from one of the schools. Each team of artist/teacher is responsible for creating lessons and units that incorporate some form of art with a core subject to be taught during the regular school day (Deasy, 2002). Utilizing highly creative teams results in academic gains in the students and encourages greater school attendance.

In Indiana, there is a program similar to CAPE, called "Summer Arts for Youth", that invites disadvantaged children to participate in Arts classes during the summer months. Sponsored by Young Audiences of Indiana, "Summer Arts for Youth" has been in existence for over 16 years. The program's student population currently has over 85% of the students living below the poverty level. The summer classes consist of interdisciplinary activities in music, dance, visual arts, and theatre, with lessons based upon children's books. "Summer Arts for Youth" conducts classes at different sites throughout the community, and is dedicated to helping children learn through the arts. The program's curriculum follows the National Arts Education Standards in each of the different areas of the arts, and the teaching staff is comprised of local community artists of different disciplines. Each program site has on staff a musician, a dancer, a theatre performer, a visual artist and a storyteller ("Summer Arts", 2005). In having the artists teach in their particular subject area, students have the opportunity to learn and can also visualize the reality of a career in the arts.

Another example, similar to "Summer Arts for Youth," is the Pennsylvania Ballet, a community organization that is also committed to teaching and demonstrating career opportunities through the arts. The Pennsylvania Ballet creates programs to encourage student and school participation in dance as a learning tool and a real-life experience. One program, called "Accent on Dance", offers elementary, middle, and high school students an opportunity to experience the ballet. Many of the schools that are invited to participate have a student population that would normally not have an opportunity to attend the ballet. Students are able to learn how the ballet operates behind the scenes. They are given workbooks, visit dance studios, and participate in interactive assemblies at their schools ("Outreach and Education", 2005).

Another Pennsylvania Ballet program is "The Delphi Project", which enables two schools per school year to create and perform their own ballet. Schools can choose to put together the same ballet as the Pennsylvania Ballet, or they can create their own, as one school did in response to 9/11. The overall goals of the Pennsylvania Ballet are to "positively affect school behavior" and to "encourage community participation and interaction" ("Delphi", 2005, paragraph 1).

Further evidence supporting the positive effects of community outreach is from the National Educational Longitudinal Study of 1988 (*NELS:88*). James S. Catterall (1998) identifies scientifically-based evidence that student involvement in the arts will positively

influence academic success. Begun in 1988, the study followed approximately 25,000 students from 1,000 middle and high schools across the United States. The arts-related activities considered for this study were in-school art, music and drama classes, band, orchestra or chorus, and out of school arts classes. With data collected in 1990, 1992, and 1994, the study showed that students who participated in arts-related activities demonstrated greater academic success, displayed higher levels of self-confidence, watched less television, and were more likely to volunteer in their communities. The results of *NELS:88* led to a sub-study of some 6,500 students who came from the lowest socio-economic level of the participating group. There was clear evidence that the arts not only increase student academic achievement, but they positively affect student social development as well.

Though the results of the *NELS:88* study originally showed that arts-integrated programs, whether implemented during the regular school day or through community out-reach, aimed at helping students become more productive learners, academically and socially, further research has shown that the design of the study, at present, renders the results misleading. Hetland and Winner (2004), two of Harvard University's Project Zero researchers, found Catterall's study to be inconclusive as to whether or not the arts alone are responsible for the increase in student academic achievement. They claim that a main flaw of Cathell's study is the lack of consistency in the types of arts involvement in which the students participated. Hetland and Winner believed the study allowed many

additional factors that could determine the true cause for the higher achievement levels of the arts-rich versus the arts-poor students (p. 149-52).

If future research in arts education does certify that participation in the arts greatly aids students in developing higher-level thinking skills and encourages positive contributions to their community, then clearly, the Government will find its goals of student achievement within the NCLB and the ESRA programs greatly expedited if it places the arts within the main curriculum as that of the other core subject areas.

Chapter 2: Brain Research and Learning

Ronald Kotulak (1996), science writer for the *Chicago Tribune* believes that education serves two functions for the brain. First, learning helps brain cells to create more connections, thus increasing the brain's memory capacity. Secondly, Kotulak feels learning helps to promote healthy views of self and environment (paragraph 51-52). Educators and neuroscientists continually attempt to find connections between how the brain functions and how people, especially children, learn. A current focus in the area of neuroscience concerns the developing brain and an understanding of how to best capitalize on early childhood education to enable the brain to reach its full potential. Neuroscientists explain the concept of the "plasticity" of the brain by showing that plasticity allows the brain to "constantly change its structure and function in response to experiences coming in from the outside" (Kotulak 1996, paragraph 5). This means that as the brain encounters more outside experiences, there is actually more growth and development taking place. Kotulak states these experiences come from the "outside world", the world in which we live every day (paragraph 22).

It is a known fact that the brain connects to the outside world through the five senses: sight, hearing, touch, taste, and smell. Studies show that the more stimulating experiences the brain receives, particularly before the age of ten, the more the brain cells

are able to make connections, grow, and develop. In a stimulating environment, the increase in numbers of brain cells helps to increase the number of thought processes and functions that the brain can accomplish. In contrast, without stimulation, the brain cells that are not used die off, as though they do not have any additional function to serve (Kotulak, 1996; Rettig, 1999). In an arts-centered environment, the senses are used on a routine basis. The arts inherently provide stimulation through sight, sound and touch that enables brain cells to make connections needed to grow and respond to a changing "outside world".

Kotulak (1996) sites a study completed by Bill Greenough, a professor at the University of Illinois, where Greenough tested the outcomes of stimulation vs. no stimulation on rats in their living environment. He gave the stimulated group of rats "toys, colors, playmates, exercise, devices, challenges" (paragraph 25). For the control group, Greenough did not implement any extra stimulation beyond that found in their normal living conditions. The results showed that the rats living with extra stimulation had "twenty-five percent more connections between their brain cells than the control rats, and [the stimulated rats] were a lot smarter" (paragraph 25). The brain reacts positively to outside stimuli in helping the brain develop. Singing, painting, dance and drama, musical instruments, and questions or situations that require problem solving are natural tools for students to create the same types of stimulating experiences that the experiment rats were given, thus creating more opportunities for brain cells to make connections and grow.

Eric Jensen (2001), a teacher, professor, and staff developer for the Society of Neuroscience, in his article "The Science of the Arts", explains that physical stimulation, as with a student's living environment, is essential for cognitive development. Jensen's ideas support Kotulak in that the routine use of new skills through physical activity (movement, dance, drama, and role-playing) helps to make recall of information easier. Jensen also offers evidence that the arts are influential in the neurological and cognitive development of human beings. A study of the impact of visual arts on learning in almost 500 kindergarteners (one half of which were from Tel Aviv, Israel, the other one-half from Columbus, Ohio) found that drawing increases cognition. Drawing enables students to visualize and plan, as well as improve verbal skills (vocabulary), and creative thinking. In another study, in which music and brain function are connected, Jensen sites physicist Gordon Shaw who found that music can positively impact memory through pattern recognition (paragraph 6-7). In another study, preschool-aged children were given piano/keyboard lessons. The group scored the highest in spatial-temporal reasoning, which is a function used in understanding proportions and fractions in mathematics (paragraph 11).

Hetland and Winner (2004) concur with Jensen that music instruction-singing, playing musical games, learning notations, improvising or composing music, moving responsively to music, clapping, and playing instruments-can increase spatial-temporal learning, and that music instruction helps to "enhance spatial reasoning more broadly" (p. 148). Further research, however, is needed to determine which aspects of music

instruction are most effective in achieving such results. Further research is also necessary to determine whether older students benefit as much as younger students when it comes to music instruction and development of cognitive skills (p. 147).

Rettig (1999), professor of educational leadership at the University of Wisconsin-Oshkosh, agrees that the brain processes and grows by making connections with new information. However, he states that emotion, along with the five senses, aids in an increase of memory. Rettig cites Sylwester, a participant in brain research for educators, who indicates that involving students in role-playing is a good way of creating an emotional involvement to learning concepts (paragraph 13). The various senses enable each student to learn and remember new information in a way that is natural to the individual child.

An area of arts education research needing examination is the affective qualities of the arts experience on students and how the arts help to allow emotion to be a learning tool. According to Kentucky's Core Content for Assessment in the area of Arts and Humanities, four purposes of art are defined as: Expressive (express emotions & ideas), Decorative (decorate objects), Narrative (illustrate experiences), and Functional (artwork that can be useful) ("Purposes of Art", 2005, paragraph 1). It is in the four purposes of art that a student is able to use emotion in combination with cognitive skills to express personal thoughts, demonstrate an understanding of the information presented, and establish connections between new information and previous knowledge.

Chapter 3: Multiple Intelligences Theory

One of the most convincing arguments that arts are essential in individual student academic achievement and social development is found in Howard Gardner's Theory of Multiple Intelligences, (MI). Introduced to the public in 1983, MI originally included seven intelligences that represented seven ways in which people could show intellectual strengths. These were: *Linguistic, Logical-mathematical, Musical, Bodily-kinesthetic, Visual-spatial, Interpersonal, and Intrapersonal.* Descriptions of the intelligences can be found in Appendix A. Upon further research, Gardner found an eighth intelligence, *Naturalistic*. Gardner states that everyone has the ability, to some degree, to become adept in all of the intelligences. He advises, however, that influences, such as in the contexts of cultural, environmental and genetic, tend to determine which intelligences will be considered a priority for a particular individual's intellectual development.

A main idea behind the MI Theory is that there must be a shift from what the teacher teaches to how the student learns. Chipongian (2000) writes about the Spectrum classroom, designed by Gardner and his colleagues. The Spectrum classroom is an environment in which students can explore and participate in activities tailored to each of the different intelligences, much like the interaction that takes place at a children's museum, where, in this type of setting, teachers are able to identify the students'

strengths by the activities they participate in, and those areas in which they seem to have less interest. The idea behind this classroom format is to enable the teacher to identify each student's particular learning style, and to help the student build strength in their weaker intelligences. The teacher encourages the students to take part in all activities by using "bridging activities" between the activities the students enjoy and the activities of lesser interest. Because human intelligences are never static, this type of classroom allows for continual development of cognitive strengths and weaknesses.

In an interview conducted by Simon Hanson (2000), Gardner explains that the majority of America's schools are geared for teaching to only one kind of thinker, one who is strong in both linguistic and logical intelligence, and that it is unfair to "force" all students to learn in the same particular way. Gardner (1999) believes that educators may feel pressed to teach skills that help this type of thinker due to the requirement of high student scores on standardized tests, which are more significant now since the enactment of *NCLB*. He suggests that teachers use "multiple points of entry," a variety of ways of presenting new information to students so that all students can be engaged in learning new concepts. Delacruz (1997), author of *Design for Inquiry: Instructional Theory, Research and Practice in Art Education*, identifies many instructional strategies that arts teachers use routinely as multiple points of entry. For example, engaging students in singing as a group, role-playing in small groups or pairs, drawing and painting, storytelling, critiques, discussions, and movement are different ways arts educators apply this concept, thus enabling the students to become involved in the understanding of new

information. The arts inherently allow students multiple points of entry, unlike most classrooms where the teacher gives new information and the student takes notes.

Gardner posits that his theory is not a blue print, so to speak, for organizing the curriculum to teach each of the intelligences, but he believes that students benefit from learning and instruction practices that are stimulating, and that require the use of different areas of the brain (Pearson, 2005). According to Gardner, it appears that schools which continue to focus only on reading and math and that continue to use standardized testing as a primary form for assessing student achievement potentially limit which areas of the brain can be exercised and developed.

Tilney (2001) gives examples of multiple intelligence lessons integrating the arts that enable all of the students to learn. Tilney cites a teacher at South Anna Elementary School, in Montpelier, Virginia, named Chip Joseph, who utilizes music as a building block from which to teach new concepts to his class. One of his students had trouble learning multiplication and asked if the class could write a song so that she would better understand the process of multiplying. This is an example of a multiple point of entry. By singing the rules for multiplication rather than receiving the typical teacher-led lecture, the student was given another means to grasp understanding of the new information (paragraph 5-8). In another example, Ruth Melendez and her students at High Plains Elementary in Colorado Springs, create musicals based on Colorado history. Melendez feels this process enables her students to demonstrate learned knowledge in a

"real-life project" (paragraph 9-10). Mack Lewis, a teacher in Sams Valley, Oregon, uses play production to inspire his students to read. Lewis identified brain research supporting that students "form the neural pathways that make fluent reading possible when they master a reading sample," as would be essential when practicing their part in a play (paragraph 11-12).

Many of Howard Gardner's beliefs about MI Theory and the importance of the arts in education are examined and tested at Harvard University. The University Graduate School of Education in 1967 developed a research group known as Project Zero, which organizes studies in education. The mission of Project Zero is "to understand and enhance learning, thinking, and creativity in the arts, as well as humanistic and scientific disciplines, at the individual and institutional levels" ("History of Project Zero", 2005, paragraph 1). Project Zero focuses mainly on critical and creative thinking in learning, MI Theory, and the influence of the arts in education. Many of the current studies examine how and why the arts support student academic and social development.

One of Project Zero's programs is called *Artful Thinking* (Tishman and Palmer, 2005). The program was first implemented into schools in Traverse City, Michigan Area Public Schools (TCAPS). The program successfully integrates art and music into the regular curriculum in order to encourage the development of "thinking routines" in which the students ask challenging questions, make thorough observations, explore multiple points of view, and analyze and reach conclusions based on evidence. Students are taught

strategies that enable them to use these thinking routines quickly, and with topics in all subject areas, including art.

Another program developed by Project Zero is known as *Art Works for Schools* (Tishman and Grotzer, 2005), and is designed to teach higher level thinking skills in and through the arts. The program is a collaborative effort between schools in Cambridge and Lincoln, Massachusetts, the Underground Railway Theatre and the Cordova Museum. The curriculum creates thinking in four dispositions: "the disposition to explore diverse perspectives; the disposition to find, pose and explore problems; the disposition to reason and evaluate; the disposition to find and explore metaphorical relationships. These areas of thinking are characterized as dispositional in nature, rather than skill-centered, because they involve attitudes, emotions, and sensitivities, as well as cognitive skill." (paragraph 2). The thinking dispositions are first practiced and developed in the area of art, then once acquired, the student should be able to "transfer" the thought processes for use in the other subject areas.

Burton, Horowitz and Abeles (2000) support Gardner in their article entitled "Learning in and through the Arts: the Question of Transfer," where they report on their study conducted through Teachers College of Columbia University. The study explores the theory that similar cognitive skills "transfer" across the curriculum. The article describes the idea of transfer in that the thinking skills required for the arts will transfer over to math or science, enabling the brain to make connections, thereby increasing the level of

learning achieved. The assumption underlying the study is that the arts already create the potential for the brain to think in complex ways. The question here is whether or not the arts initiate higher level thinking skills used in other subject areas. The study included approximately 2,000 middle school students in grades 4, 5, 7, and 8, and from 12 different schools. The study does not focus on any one particular approach for teaching art; instead, a wide variety of methods are observed. The study compares "arts-rich" schools versus "arts-poor" schools. The conclusion is that in the arts-rich schools, the students are able to demonstrate not only higher level thinking required for academics, but are also able to organize, make connections and identify with real life experiences. The arts promote learning through all of the senses, engaging more of the brain, which enables higher level thinking skills and allows thought processes to be accessed regardless of the subject matter.

Other schools and districts across the United States are developing arts-integrated curricula based on Gardner's MI Theory. The curriculum being conducted in North Carolina is called the A+ Schools Program. The students in these schools have visual arts, dance, drama and music at least once a week. The arts teachers are expected to incorporate core subject instruction in their classes, and regular classroom teachers are expected to incorporate some of the arts. The students are taught according to their individual needs. A+ is one of the first programs designed to teach through the arts. Research, conducted through a pilot program, has proven that the arts help increase student grades and test scores in other areas of the curriculum (A+ Schools Program

Evaluation, 1994). The A+ Program was fully implemented in North Carolina schools in 1995.

Despite great success from the program, however, North Carolina schools continue to feel the pressures of North Carolina's ABC's of Public Education. McKinney (2002) explains that ABC is an acronym where "A" stands for "high stakes [teacher] accountability", "B" means concentrating on "the basics" (reading, writing, math) and "C" stands for "local control" (paragraph 6), reiterating the mandates set forth in *NCLB*. While the faculty and staff of these schools recognize that the A+ Program is essential in helping their students acquire higher level thinking skills and problem-solving abilities, the schools feel obligated to teach the subjects that will appear on the End-of-Grade (EOG) State Test (reading, writing, math). Limiting the subjects creates a less stimulating learning environment. McKinney quotes one teacher who states, 'what we know works, doesn't document easily (McKinney, 2002, paragraph 35).' Another teacher says, 'The big one that hurts is all the end of grade tests… All over the school people are going back to [teaching in] very traditional ways to get ready for that test' (McKinney, 2002, paragraph 35).

Chapter 4: The Question of Assessment

Jensen (2001) ponders the focus of current education policies and practices when he asks, "Is our social, moral, and ethical mandate to maximize test scores or to prepare the citizens of tomorrow" (paragraph 22)? This is the choice that educators, administrators and elected officials are facing regarding the education of the students of the United States. Given the knowledge resulting from numerous studies of brain-based research whereby multiple intelligences and studies identify the impact of the arts on education, we see that standardized testing measures very little of a student's full capabilities, and is unable to measure a child's social development.

The National Center for Fair & Open Testing (FairTest) ("Why No Child", 2005) believes the *NCLB* Act is too lofty a goal for each school to be required to meet. The Act has resulted in the Government removing the control of education from the highly qualified experts and resting it in the hands of testing institutions and government officials who may be unaware of the complexities of how children learn differently and how individualization is required to enable each child to reach their full potential. FairTest reports that some states are actually seeing test scores drop rather than increase since the Act's implementation ("Reality-Testing", 2005, paragraph 3). The focus of standardized testing in measuring student academic achievement is simply not producing

positive results. FairTest argues that assessment concerns should be addressed by "educators and parents to determine the real needs of schools" ("Why No Child", 2005, paragraph 5), and that assessment should be comprised of different types of evaluations of the student's learning, not only base their achievement on state test scores. Rubrics, for example, allow for an alternative method of assessment. Instead of assessing a student on the end product, the student is scored based on his or her performance in various skills required to complete the activity. The scores for each skill are totaled to measure the student's performance on the activity. An additional aspect of a rubric can include the student's personal responses or reactions to the lesson. Rubrics allow for both the teacher and the student to be aware of the strengths and weaknesses of the student's performance. A rubric sample can be found in Appendix B.

Arts PROPEL, another innovative program designed by Harvard's Project Zero, aims to identify meaningful assessment tools that focus on learning in and through the arts. Arts PROPEL collaborates with Pittsburgh Public Schools and the Educational Testing Service to "develop non-traditional assessment strategies for students engaged in the artistic process" (Simmons, 2001, paragraph 11). PROPEL actually stands for "Production, Perception, Reflection, and Learning" (paragraph 12). The program encourages Production with a focus on the process; Perception which centers on the information needed to understand both the process and the product; and a Reflection on the process to demonstrate proof that Learning has occurred.

Two types of assessment outcomes are used in Arts PROPEL. The first type of assessment, the "domain project," is relatively traditional. A domain project is the final presentation of a project that revolves around a central theme (paragraph 13). The domain project brings together the different intelligences, and identifies which intelligences the student is strong or weak. The second type of assessment, the "process portfolio," shows the work that the student accomplished in order to develop the domain project (paragraph 18). The process portfolios include the student's work from the beginning of the project until the end, such as rough drafts of a paper, and sketches. Process portfolios reflect not only the organizational and academic skills acquired by the student, but also the social skills of responsibility and positive behavior. MI theory, in this type of program, creates alternative assessment practices, thus enabling a broad spectrum of student success.

Some States, such as Maine and Nebraska, are currently working to create classroom–based assessment procedures combined with only limited standardized testing ("Why No Child", 2005, paragraph 7). These States are working to allow individual schools and local communities to decide the improvements needed in the education of their children.

Chapter 5: Conclusion-Unfinished Answers

Because of the increased demand for superior student academic performance in this country, and the changing dynamics of school culture and classrooms, and high-stakes testing and teacher accountability, the answer to the question of how to best serve our students remains. Given the research presented, there are no quick solutions. What is apparent, however, is that the long term affects of experiences in the arts, beginning at an early age and continuing into adulthood, will continue to flourish long after the standardized tests have been scored, recorded and rewritten. Arts educators are implored to continue with research to identify the types of arts experiences that will help create successful and motivated students. Could the arts be the key motivation needed in helping students continually grow and succeed academically and socially?

Hetland and Winner (2004) state, that "if we become swayed by today's testing mentality and come to believe the arts are important only (or even primarily) because they buttress abilities considered more basic than the arts, we will unwittingly be writing the arts right out of the curriculum", (p.158). There needs to be a push for the arts to be recognized as independent core subjects. The arts should not have to be defended as a core subject based on how they help foster learning in other subjects. Dance, drama/theatre, music, and visual arts are valid in their own right and teach different and important ideals to

students, such as expression, which is not encouraged in subjects such as math or reading. Rettig (1999), and Hetland and Winner (2004) acknowledge the arts are the only areas in which students can develop personal meaning with what they are learning; and the arts also allow the student to express their gained knowledge in both verbal and non-verbal forms. Standardized tests are seeking only factual information.

Gabriel (2001) cites Dr. Lori Shepard, of the University of Colorado's School of Education, who warns that the current format of standardized testing being administered for student and teacher accountability "bears little resemblance to effective assessment practices at the classroom level" (paragraph 17). Ranpura (1999), cognitive development researcher and science journalist, although agreeing with Shepard that brain research cannot determine how best to teach each lesson, feels that neuroscience is moving away from treating one disorder for various individuals, such as ADD/ADHD, and is developing in the direction of concentrating "blanket solutions" on each individual. He claims standardized tests are not advantageous in increasing student achievement levels (paragraph 12). Through brain research, we know that the brain grows through stimulating activities. Multiple points of entry, by engaging the senses, help provide the stimulation the brain needs to develop. Hetland and Winner (2004) suggest exploring the effects of "arts-as-entry-points" on teaching and learning in all subject areas (p. 155).

Howard Gardner, according to Hildebrand (2004), acknowledges that "parts of the brain are dedicated to the arts, and it's a shame not to develop these parts" (paragraph 7).

Utilizing an MI curriculum that also integrates the arts allows for student learning and assessment to be more individualized, which enables each student to recognize and develop up to their own intellectual potential. Gardner's (1999) opinion is in agreement with Ranpura's in that "*any* uniform educational approach is likely to serve only a small percentage of children optimally" (p. 91). Instead, education should be approached with the individual student in mind and with the goal of developing the whole child.

Both Hetland and Winner (2004) and the Arts Education Partnership (2004) agree that the skills required to help students invent, explore, discover and be able to reason at multidimensional levels will not be acquired through teaching to a test. Alternative assessment strategies, such as rubrics and process portfolios give students an opportunity to show the growth of their learning, as opposed to receiving one score on a standardized test, which may or may not be a passing score. Teaching and testing toward factual information without any application of knowledge shows nothing of what a student is able to do and accomplish. The arts inherently allow students the avenue to display understanding due to their hands-on nature. Even if students do have higher level thinking skills, they cannot demonstrate so on a paper and pencil test. New research should focus on developing opportunities for alternative methods to demonstrate students learning (Hetland and Winnner, 2004, p. 153).

Although research continues to clearly prove the arts play a definitive role in student academic and social development, the arts do provide ways to strengthen each of

Gardner's Intelligences, and provide the needed outlets for expression of emotion, inherent within each child. The Arts Education Partnership (2004) issued a document called *The Arts and Education: New Opportunities for Research,* which suggests further evidence the arts influence various aspects of learning. It recommends that new research include both cognitive and possible noncognitive transfer outcomes, which Hetland and Winner (2004) specify as the social, motivational, or dispositional effects of arts instruction (p.155). Section III of *The Arts and Education: New Opportunities for Research* is focused on teaching and learning environments, suggesting that research address teaching through the arts; examining how a student's experience in the arts affects his or her ability to connect new information with prior knowledge (p.16).

In order to enable each child's intelligences to develop, the classroom needs to provide individuals ample opportunities to participate in and evaluate their own learning. The arts can make learning real and create avenues for learning in ways that are most natural for each individual. By involving stimulating hands-on activities and using multiple points of entry, learning becomes a sensory experience, allowing the students to retain more of the new information they are receiving. The arts offer a way to understand new information through the processes of thinking and doing. Students are able to make connections between science, history, reading, math, and the arts, and see each subject as a process in the discovery of new ideas. Focusing on only a few core subjects will not help students develop all of their intelligences. A standardized test will not tell you everything a student really knows.

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Howard Gardner's Theory of Multiple Intelligences
(From *Intelligence Reframed*, 1999)

Appendix A (Chapter 3, p. 21)

1. **Linguistic**: sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. (Lawyers, speakers, writers, and poets)
2. **Logical-mathematical**: capacity to analyze problems logically, to carry out mathematical operations, and investigate issues scientifically. (Mathematicians, logicians, and scientists)
3. **Musical**: skills in the performance, composition, and appreciation of musical patterns.
4. **Bodily-kinesthetic**: potential of using one's whole body or parts of the body (like the hand or the mouth) to solve problems or fashion products. (Dancers, actors, athletes, craftspersons, surgeons, bench-top scientists, mechanics)
5. **Spatial**: potential to recognize and manipulate the patterns of wide space (navigators, pilots) as well as patterns of more confined areas (sculptors, surgeons, chess players, graphic artists, architects)
6. **Interpersonal**: capacity to understand the intentions, motivations, and desires of other people and, consequently, to work effectively with others. (Salespeople, teachers, clinicians, religious leaders, political leaders, actors)
7. **Intrapersonal**: capacity to understand oneself, to have an effective working model of oneself-and to use such information effectively in regulating one's own life.
8. **Naturalistic**: Ability to recognize members (patterns) of a group, specifically in nature (species) and to classify according to details each group's relationship to another. Also having an affinity for living things. (Natural and social scientists, hunters, farmers, fisherman, gardeners, cooks, artists, poets)

Rubric Sample
APPENDIX B (Chapter 4, p. 29)

Making A Mask : Native American Spirit Masks

Teacher Name: **Ms. Labbe**

Student Name: _____

CATEGORY	4	3	2	1	Score
Knowledge about Culture/Story	The student can answer 3 questions correctly about how the mask relates to the culture or story being studied.	The student can answer 2 questions correctly about how the mask relates to the culture or story being studied.	The student can answer 1 question correctly about how the mask relates to the culture or story being studied.	The student does not understand how the mask relates to the culture or story being studied.	
Knowledge of Mask Construction	The student can clearly describe the steps used to make his/her mask. The student can accurately point out how this process was similar or different from mask-making in the culture being studied.	The student can clearly describe the steps used to make his/her mask.	The student can describe most of the steps used to make his/her mask.	The student has great difficulty describing how his/her mask was constructed.	
Time and Effort	Class time was used wisely. Much time and effort went into the planning and design of the mask. It is clear the student worked at home as well as at school.	Class time was used wisely. Student could have put in more time and effort at home.	Class time was not always used wisely, but student did do some additional work at home.	Class time was not used wisely and the student put in no additional effort.	

Attractiveness/ Craftsmanship	The mask shows that the creator was took great pride in his/her work. The design and construction look carefully planned. The item is neat (free of unwanted bumps, drips, marks, and tears).	The mask shows that the creator took pride in his/her work. The design and construction look planned. The item has a few flaws (unwanted bumps, drips, marks, tears), but these do not detract from the overall look.	The design and construction were planned. The item has several flaws (unwanted bumps, drips, marks, tears), that detract from the overall look.	The mask looks thrown together at the last minute. It appears that little design or planning was done. Craftsmanship is poor.
Sources	The student has 5 or more sources of inspiration correctly cited.	The student has 3-4 sources of inspiration correctly cited.	The student has 2 sources of inspiration correctly cited.	The student has fewer than 2 sources of inspiration correctly cited.
Creativity	Totally original design, no element is an exact copy of designs seen in source material.	Most of the mask elements are unique, but 1 element may be copied from source material.	Some aspects of the mask are unique, but several elements are copied from source materials or other students.	The mask is a copy of a mask seen in source material or one made by another student (80% or more of elements are copied).

Vita

Michelle Ann Labbe was born on February 24, 1974, in Fairfax County, Virginia, and is an American citizen. She graduated from Bishop Denis J. O'Connell High School, Arlington, Virginia in 1992. She received her Bachelor of Arts in Studio Art from the University of Mary Washington, Fredericksburg, Virginia in 1996. She began teaching elementary Art for Farifax County Public Schools in 1999, and in 2003 began teaching for the Indian River School District in Sussex County, Delaware.