

WHY CANT WE PAINT IN MATH CLASS?  
INTEGRATING ART INTO THE CORE CURRICULUM

By

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Capstone Project  
Presented to the College of Fine Arts of the University of Florida  
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# THE INTEGRATION OF ART INTO THE CORE CURRICULUM

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# THE INTEGRATION OF ART INTO THE CORE CURRICULUM

This Capstone Project is dedicated to all the children who are lucky enough to discover where art meets education and comes alive.

“If a child can't learn the way we teach, maybe we should teach the way they learn.”  
- Ignacio Estrada

# THE INTEGRATION OF ART INTO THE CORE CURRICULUM

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Chair: Elizabeth Delacruz  
Major: Art Education

The purpose of this capstone project thesis is to present various methods of art integration into the core curriculum and a set of instructional lessons for an eight week period of time in a 4<sup>th</sup> grade classroom setting. It responds to the standards of the State of California K-5 learning standards in Math, Science, Language Arts, and Social Studies. The lesson plans were used in my classroom using action and narrative research. The project also includes the design and development of a website resource for all teachers of the fourth grade in California who wish to teach outside of the box.

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## CHAPTER ONE

### Art Integration

Out of the corner of my peripheral vision, I saw the plate of paint lifting off the table. Attached to the plate was the hand of a new 2<sup>nd</sup> grader in her first class. It wasn't even an hour into the day, when she took the plate and inverted it on top of her long, brown hair. Laughing, giggling and jumping around, the plate slid off her head and onto the floor with a crash. Paint splattered everywhere in a three foot direction. The rest of the students sat staring at me, waiting to see what I, the teacher, controller of the classroom, would do.

Ever have one of those times in a classroom when you know something is going to happen? The minute Sarah stepped across the threshold into class, I knew she was a special student. She has a passion for art, but not writing; she can paint, but cannot draw; she can read, but cannot comprehend. How do you reach these students and assimilate them into the social and academic aspects of the classroom learning environment?

When I was a new teacher, I began to notice that some children seemed disconnected and aloof during the academic portion of the classroom environment. They were bored, fidgety and watched the clock for the recess bell to escape the distress. My classroom needed a change; we needed engagement in an interdisciplinary curriculum, hands on, creative and inspiring. After recess one day, I distributed crayons and paper among the students, instead of making them take notes from the whiteboard, and a community was born. I continued interjecting art everyday into the topics we were studying and I noticed that the students were more involved in the learning process and happier to be in a classroom.

Sarah is an example of a student that is responding when art is integrated into a subject and routinely uses her entire body during the projects. She is a sensory seeking student touching

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everything in her reach, feeling the texture of the art medium because she depends on sensory input to learn. Sarah struggled in the public school system; she just could not sit still. Art has become obsolete in many elementary schools in California. However, art integration into the core curriculum could provide students an enhanced learning experience, especially for students with different learning styles, including students with special needs and requirements. The arts give students sensory demonstration for reasoning and it makes learning evident as the student starts to develop and recognize that they are investing in themselves (Burnaford, Aprill, & Weiss, 2009). While wiping out the biggest globs of paint from Sarah's hair, I asked her why she dumped the paint. Her reply, "Because I like the feel of paint". Simply put.

Art integration is a contemporary idea and is a growing field in education. Every child has a hidden talent that has yet to be discovered and the young boy who sat at the table in front of me was no exception. He wore a blue shirt with an Amtrak train on the front and was self-absorbed in the drawing in front of him. It was also a train. In fact, upon closer examination, it was a realistic interpretation of an Amtrak train. I began to wonder if I used the train as an example, what types of connections I could use to join art and math or science. Can art be the primary vehicle of an integrated curriculum that takes materials and skills from art and combines it with core subjects to help stimulate social responses? By using the drawing of the train the young boy created, a teacher could use the drawing and incorporate other subjects like the history of train transportation in California, math skills using shapes, measurement, fractions and addition of three digits, or a language arts assignment using descriptive words to define the train.

A few months ago, I asked a teacher at my daughter's school "Why can't they paint in math class?" She replied, "The real answer is because we don't have the money for paint and math is not art". Think of how powerful learning could be if art was integrated. How do we as educators



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persuade the school districts that art is worth experiencing and is fundamental to the human experience and understanding (Eisner, 2001)? That arts education in our schools is essential and can be the foundation to other subjects (Davis, 2008). A teacher from the Tampa, Florida area, Gregory McColm states:

I teach college mathematics, and my students suffer from weak spatial intuition. They have difficulty understanding a three-dimensional object from a two-dimensional picture of it. They have difficulty working out geometric word problems. They have difficulty drawing anything. All these are prerequisites for mathematics education (p. 1).

### **My Study**

Art integrated curriculum seems like a great way to captivate and communicate the lessons the students are required to learn to meet the standards of California. My project consists of creation, implementation, and study of art-integrated curriculum incorporating four of the subjects taught in the California elementary schools for 4th grade. The research site is Sycamore School, a private home school where I am the director and teacher. The subjects included in my curriculum are:

- Science
- California History
- Language Arts
- Math

On the website I constructed, I have published my eight week interdisciplinary program of study, containing over 200 pages of curriculum plans and all based upon the California standards. I believe that this curriculum can be adapted and used in any 4th

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grade class in the state of California, or adapted for other states. Some of the questions I asked while planning this curriculum were:

1. In what ways can art be integrated with other subject areas that maintain the integrity and value of art instruction itself?
2. In what ways do student's exhibit learning of subject matter specific content areas like social science, language arts, math and science, while engaging in an art-integrated unit of study in that subject area?
3. In what ways will students demonstrate that they are meeting the academic standards of California in social science, language arts, math and science?
4. In what ways do arts-based integrated lessons facilitate a sense of community development among students within the classroom?

These questions were also important as I implemented and studied how students interacted with my curriculum. As will be discussed in Chapter 3 of this paper, my research utilized action research methods to explore these questions and to examine more closely what happened as the curriculum unfolded at Sycamore school. The definition of action research given by David Tripp (1990) is as follows:

Educational action research is a term used to describe a family of activities in curriculum development, professional development, school improvement programs, and systems planning and policy development. These activities have in common the identification of strategies of planned action which are implemented, and then systematically submitted to observation, reflection and change.

Participants in the action being considered are intricately involved with all of these activities. (p. 159)

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### Rationale for the Study

The arts shed light on, and give foundations in a broad base, to the curriculum. A science lesson that I created for this research project (see Figure 1), demonstrates a hands on art project about the plate tectonic subduction zone off the coast of California. A lesson about Leonardo Da Vinci's *Mona Lisa* may lead to a discussion about the inventions he designed and the science behind the drawings. A study about Franz Marc and the *Blue Horse* can lead to a biological discussion about genetics and why it is impossible to breed a blue horse. The detailed train picture the boy drew may lead to a study of the materials a train is made of, or ratios and measurements of the wheels or other parts. Cross curricular integration can provide a contemporary structure for the classroom today. Student directed learning can motivate students to engage in meaningful



Figure 1. Plate tectonic subduction zone - Geology

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work and individualism (Douglas & Jaquith, 2009). Many scientific problems are based upon models of three dimensions and are difficult to grasp if you have not spend quality time in art classes, drawing, sculpting or painting (McColm, 2012).

### **The Concept of Art Integration**

My study seeks to describe how an interdisciplinary arts-integrated curriculum might look and function. For the purpose of this paper, interdisciplinary art integration refers to an approach to curriculum construction in which art instruction is blended with instruction in other content



*Figure 2. Salt dough map of China - World Geography*

areas of the curriculum. Relief maps of China (see Figure 2) give the students visual interpretation of the elevation in a country that stretches from sea level to over 31,000 feet. This approach is based upon making interdisciplinary connections between two or more areas of instruction, one being art. Art in itself is important. The study of art develops abstract thinking that is necessary for students to solve complex problems and lead to better learning environments. Using art to decode, understand and recall the content of a unit of study in another

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curricular area is also important, as learning is based upon the building blocks that art affords. In my approach to interdisciplinary integrated curriculum development and delivery, cooperative learning is a key component as cooperative learning facilitates improved student interaction and a sense of community among students in the classroom.

At the same time, my interdisciplinary integrated curriculum is also an art-based, individualized learning program. My classroom model combines the highly individualized art-based curriculum one might expect from home-schooling, but with a behavioral approach to group activities and social-cognitive development. Some students are able to draw the continent



*Figure 3. World map drawings - Geography*

of Asia and Europe, (see Figure 3) however, the others might color in a pre-printed map of Asia and Europe. The learning is still visual, but adapted to their individual needs. Sycamore School, where this program takes place, is built with an art laboratory in the center, and smaller classroom settings surrounding the laboratory that combine art and the core curriculum.

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In the classrooms at Sycamore School, art is more than something to hang on the wall, it is a primary framework through which information in all of the subject areas is learned and shared by the students. My observations, -over the years as director and teacher at Sycamore School, -are that infusing arts into a core curriculum has a positive and dramatic effect on student understanding, investment in their own learning and still meeting state educational standards. For example, students who struggled in a traditional classroom, with a curriculum that is based primarily on verbal proficiency, have benefited from the integration of visual art methods at Sycamore School.

Sycamore School also includes community-based life-skills work and explorations of the wider possibilities in the community. Our field trips yield high interest discoveries, refocus children, and give them a chance to explore further. Spending time in museums enhanced the art experience and visually connects the students to ideas. In the classroom, my art-based approach combines lessons in math, science, language arts and social science with art projects.

### **Statement of the Problem**

After enrolling my own children in public school, I was amazed to find out that art in my school district was being taught by “a mom” with an “art cart” that traveled to the classroom every two weeks for one hour of art. Other than the “art cart mom”, there is no art in the elementary school in our district. Art has been swept out of schools because of the past tax reform initiatives, and more currently, by budget cuts leading to reductions of staff as a result of the economic condition of the state of California. There is no money for supplies or art teachers, and schools are facing mandatory increases in state standardized test scores to maintain federal funding. My son Michael usually sat in the back of the classroom and filled his notebooks with



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caricature doodles instead of lecture notes. The inability to follow the teacher's words because he does not learn from auditory teaching was evident in his grades.

It seems to me, unfortunately, that educators today,-who have large classes and have to be so fixated on standardized test scores, are not able to attend to their students overall individuality and varying cognitive abilities. The integration of art has recently been cited as a welcome reform to this bleak scenario, promising curriculum facilitation between the arts and core subjects (Davis, 2008). Unfortunately, reform is slow and new curricular approaches require studies with desirable findings before districts are willing to support them. Perhaps a magnet school would be an optimal environment for the testing of arts-based integrated curriculum. My son Michael, for example, would benefit from an art-integrated curriculum that used his drawings and interest in art. For example, he could do research and illustrate a book about the exploration of California in history class. By allowing him to excel with his style of learning, and be immersed in whatever the subject happens to be, Michael would become engaged, and



*Figure 4. Rapa Nu Moai - Ancient History*

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learning would follow. If engagement with art medium was at the core of the subject (see Figure 4), the hands on building of a Moai would allow the students to understand the dynamics surrounding the culture of Rapa Nu. At the heart of this view is the concept of creativity and its value in human cognition and development. Creativity is not something you can measure on the “fill-in-the-bubble” test. Art integration would be a perfect way to expand creativity, and understanding for Michael and our technologically advanced children of the 21<sup>st</sup> century stuck in the current 19<sup>th</sup> century education system.

### Significance of Project

Art can bring education to life. As Laura Chapman (1978) observes, “Art has the potential for making feelings and ideas vivid” (p. 119). One problem in schools today is some students’ lack of interest in the subject matter or their ability to do more than rote memorization of selected



*Figure 5. Stonehenge - Ancient History*

subject matter content. Students may absorb enough to maintain a certain grade in a subject, but still lack the skills to build or adapt upon the information in meaningful ways. For example,



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lecturing or having students read about the geography of California may be an efficient content deliver strategy in a classroom, but suppose art was used to bring these geography lessons to life? An ancient history project used in my classroom was building a replica of Stonehenge and this project coincided with the winter solstice (see Figure 5). On December 21<sup>st</sup> at sunrise, the students took their Stonehenge replica's outside and aligned the center stone to the rising sun, just as if they were at the real Stonehenge in England. As this example illustrates, one motivation behind art integration is to make standard learning both active and vivid in order to engage students in remembering important aspects of a subject area or lesson beyond the testing period.

The focus on one subject, learning with memorization of content, skill drills and presentation of concepts, are inadequate to shape student competency (Burnaford et al., 2009). Creativity and the kind of thinking afforded by the visual arts would be one way to counteract the focus on repetitive learning today (a focus, as previously mentioned, that seeds to raise



*Figure 6. Geology - maps of Pangaea*

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student scores on state standardized tests). Moreover, the study of art would not be done in isolation. Instead, art study should occur in a social context allowing language and cultural development to overlap naturally in the classroom (Efland, 2002). (See Figures 6 and 7).

### **Limitations**

Over the past three years, I have been researching art integrated curriculum ideas and using them in my classes at Sycamore School. It occurred to me that teachers in other schools might use art in conjunction with their core academic subjects if contemporary lesson plans, that were easy to use and follow in the classroom, were available. For this reason, I have created an eight week arts-based interdisciplinary curriculum unit that is now available on my Sycamore School website.

I observed the students in my classroom while they were participating in my art integrated



*Figure 7. Ancient Roman Ruins - Ancient History*

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curriculum. The curriculum that I created could be implemented in a public school; however it would have limitations. Integrating art into my classroom is different than integrating art into a colleague's classroom for obvious reasons, but the commonality is the demographics of the students.

One of the limitations of transferring my curriculum to another setting would be lack of incentives or art training for teachers along with a limitation of art supplies in their schools. The resources may not be available to the classroom; and it may be difficult to assist the students individually. For example, using sections of some of my lesson plans in a 4<sup>th</sup> grade classroom in a public classroom of 34 students over two days may be more complex. Furthermore, students are not familiar with art and the processes of drawing and painting. Understanding some of the fundamentals of art instruction would have to be a prerequisite to teaching an art integrated curriculum. It would probably be useful to implement team teaching or have interns from the local colleges to help out. In addition, public school teachers have to follow a prescribed curriculum and many may not find time to integrate art into their demanding daily schedule.

Another limitation is generalizability of my study results. My classroom is a small group of ten students, exclusive home school children with motivated parents who are all in the fourth grade curriculum, and vary from eight to ten years of age. Some of them are special needs children who could not succeed in a regular classroom. There was not a control group to compare results, I observed the students as they participated with the art integrated curriculum and reported my interpretations. My students are used to a fundamentally different way of learning than those in a public school and have several special requirements and learning styles. Finally, the answers to my research questions are elusive. My research will not prove or disprove

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the practicality or statistical value (in terms of higher test scores) of art integration by professional teachers in traditional schools.

### **Summary**

This research all started when my daughter asked why I getting my degree in art education when they don't even teach art in schools anymore. I decided to try and find the answer by asking questions, seeking empirical data about learning in the arts, and developing this data to use for the framework of my capstone project/thesis. I decided to create an art integrated curriculum and use it in my home school classroom at Sycamore School to see how it really works, and why it might be desirable. I also wondered if here was a tie between art-integrated units of study and thinking, problem solving, community interaction, social skills, and artists (Donahue & Stuart, 2010).

In my perfect world, I envision a school devoted to integrating art into the core curriculum with an artist working in a team with classroom teachers. When the arts are integrated successfully, it can be a catalyst for change at a school and the students may show improvement in many life skills critical for their development, not just the state standardized test (Donahue & Stuart, 2010). But what exactly does "standardized" mean? The dictionary definition is - "any test in which the same test is given in the same manner to all test takers is a standardized test" - so the test is standard, but are the students standard? Of the thirty-five students that are in my classroom at Sycamore School, I don't think even one of them is standard by any definition of the word. Each and every one is special, gifted in her or his own ways; working at his/her individual pace and bringing a treasure of knowledge to the community of our classroom. As mentioned earlier, education budget cuts have dramatically reduced funding for music and arts education in California schools, removing the student population even farther from the

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experience of art. Some people even think that deep budget cuts and tax reductions in California have plunged the California schools into economic ruin. Moreover, the No Child Left Behind Act of 2001 with its emphasis on accountability (standardized testing) in literacy and math, but not the arts, has further reduced the place of the arts in schools (Hetland, Winner, Veenema, & Sheridan, 2007). Such standardized assessments are a growing contemporary educational trend, and now test data are even used to assess teacher effectiveness.

Education scholars suggest that students who are exposed to a consistent art program are more likely to succeed in school because of their increased interest in learning attributable to their arts instruction (Donahue & Stuart, 2010). Based on the arguments set forth thus far in this paper, I maintain that the interdisciplinary integration of art into the core curriculum can be a solution to reinstating art in our elementary schools. It is my hope that this research shows how.

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## CHAPTER TWO

### Literature Review

Numerous books and articles have been written about art integration, approaches into art education, arts based research, emphasis of art in the classroom, policies about art in schools and meeting standards through integrated curriculum (Drake & Burns, 2004). This literature had the common thread that art-based interdisciplinary curriculum had potential, and that it was supportive and engaging; however, I did not find studies to substantiate the theory through empirical evidence. The literature also varied in type, from scholarly research to published lesson plans and examples from magnet or charter schools where art was a priority. One interesting discovery from my examination of the literature was that art has been virtually eliminated in most schools in California once children leave kindergarten. Art is one of the reasons to home school children, they receive an education beyond the core subjects and it makes well-rounded, creative thinkers.

Why should we integrate art? Curriculum based-integrated arts involve unification of content and skills, linking art and another core subject in the school curriculum. The idea of an art integrated curriculum is not new. The general term, curriculum integration, has been around since the 1960's, and used particularly in middle schools (Burnaford, 2007). At an Arts Education Partnership 2002 National Forum on the topic, educational theorist Richard Deasy refereed to arts integration as “the effort to build a set of relationships between learning in the arts and learning in the other skills and subjects of the curriculum” (Burnaford, 2007, p. 11).

The Southeast Center for Education in the Arts (SCEA, 2009) contends that there is some evidence that art integration enhances the classroom environment:

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Integrated art lessons can be extremely rich and deeply layered learning experiences for students who experience them. Teachers report that with an integrated curriculum that includes the arts, students have moments of exhilaration, personal transformation, and academic or life choice change.

Teachers and artists who have successful experiences report profound changes in their approach to individual students, to learning, and to the classroom in general.

Many teachers, parents, students, and administrators believe that integrating the arts makes classrooms better learning environments. The arts provide a window to understanding the connections among all subject areas. (SCEA, 2009, par. 6)

Children, who actively participate with their hands and their minds, make connections between what they are learning and the outside world (Burnaford 2009). Student performance, whether it is art, music, theatre, or dance, incorporates their entire body into the curriculum utilizing their visual, auditory and tactile learning aptitudes. By building intellectual thought around art, it guarantees the connection of several sensory modalities, a type of physical sensation (Perkins, 1994). When students realize that everything is associated, instead of isolated lessons, they can visualize the real world applications affecting their own lives.

Integrated curriculum also involves decisions about how many school subjects will be linked and for what length of time, how teacher planning will occur and how the school schedule will be affected (Stewart & Walker, 2005). In an integrated curricular approach, learning should be active and engaging, while using a variety of art disciplines as the primary pathway for teaching all subjects. Teachers will require some training in art related fields so they can acquire the essential understanding of art itself and be able to

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link art to other subjects unimpeded. If an integrated curriculum is to be considered effective, we cannot separate knowledge into disconnected partitions:

Integrated curriculum is an effective way to teach and learn because it corresponds with the way our brain works physiologically. Rather than separating knowledge into discrete partitions, the brain creates a complex web of information that recognizes patterns. More ever, learning within a known context or experience helps the brain remember information more effectively. Integrating curriculum is a way to capitalize on these existing features of the human brain and work with, rather than counter to its natural function. (Caine & Caine, 1992, p. 7)

Meaningful integrated curriculum also requires a focus, such as an enduring idea, theme, or issue. The importance of this connecting linkage cannot be overemphasized. Simply teaching a common topic with perspectives provided by various school subjects does not produce meaningful learning (Stewart & Walker, 2005). Designing a project that is from the science standards for California, for example building a solar car would require knowledge about solar energy. When the arts are brought into the unit, the topic of energy extends beyond the function of building (Stewart & Walker, 2005). Creating a plan by drawing and painting on paper before building commences, encourages visual perception and allows for re-design if necessary.

Art can be the used as the primary pathway for teaching all subjects. “Art helps us learn to see and to feel what we see and those arts are eye openers” (Eisner, 2001, p. 46). How do we, as educators persuade the school districts that art is worth experiencing and is fundamental to the human experience (Eisner, 2001)? I explored how integrating art in to the core curriculum can benefit visual, auditory and tactile learners. We are not a ‘one size fits all’ society and what may work for the majority, may lose the minority in the process. Eisner says it best with his



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observation, “Education in our schools should look more like the arts, rather than the arts looking more like our schools” (Eisner, 2001, p. 82).

Gardner’s multiple intelligence theory suggests that teachers need to ‘expand their repertoire of techniques’ beyond what is commonly used in American classrooms today (Armstrong, 2009). The theory points to a wide range of human cognitive abilities that are not necessarily being addressed in the classroom. If a student is learning to spell and spelling comes easily, the student is not necessarily smarter than the rest of the students. Rather it means that the student has learned to spell. Schools tend to emphasize verbal/analytic learning over all other forms of knowing. Efficient methods of instruction for verbal analytic learning tend to rely on lecturing, rote learning, and memorization. Teachers generally use lectures and or demonstrations in the classrooms, but students must be able to grasp and process the information (Delacruz, 1997).

Students’ abilities to retain information from lectures may be short. Some students are always behind in note taking, and rarely remember what was said fifteen minutes later, or what was discussed. Auditory learners thrive in a lecture environment, leaving visual learners lost in the learning process. Other students may need a different approach, because they learn with other cognitive skills. Art is one domain of human endeavor that that uses multiple senses and cognitive processes to bring it all together. Adding a multi-sensory component such as art is a compliment to any curriculum. Kindergarten teachers understand the power of multi-sensory learning. When children enter kindergarten, they come from a seamless art integrated program of preschool layered with music, singing, arts, dance and play (Davis, 2012). Most of the curriculum for the hours they are in a preschool environment is art-based play. What changes between pre-school and kindergarten?

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Teachers and artists can partner to build relationships in the classroom environment development (Donahue & Stuart, 2010). A study in the Alameda School District in California has a message: “Art is Education”. By advocating for art in their schools, they also see the benefits of student creativity, expression, engagement and risk-taking by students in their own education and development (Donahue & Stuart, 2010). Matin Abdel-Qawi, principal of East Oakland School of the Arts (EOSA), a small school begun in 2004, explains this view: “It starts with the commitment to the arts. It starts with that. So if you’re unconditionally committed to the arts and sincerely believe that the arts can play a significant role in developing children to be whole, positive, productive citizens-then if you start with that premise, then you just work from there” (Donahue & Stuart, 2010). Instead of changing the entire system at once, let’s just start by building one school at a time.

### **Summary**

Why integrate art? Because art represents the world – beauty, life, joy and all that is good. It stimulates the creativity in your soul, gives you the rush of adrenaline so you can be passionate about art. An internationally respected artist once told me:

Art is existentialism, makes you think beyond our five senses. It is the color in the world, the architecture in the streets; it is in the fashion we wear every day, the interior design in our homes, the street art on the buildings and the museums that are caretakers of art. Art is in music, theatre and dance, the movement of people walking down the street, the painted lines in the road, and even the view from the airplane window. Art is the sound of one hand clapping, a pure joy. (Personal communication, J. Gustlin, February, 21, 2012)

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I cannot imagine the world without any art whether visual, dance, music or theater. Art stimulates our minds, and surrounds us with beauty. The justification of the arts in schools is many, but the burden of proof lies with art education. The integration of art is one way to put art back in the classrooms.

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## CHAPTER THREE

### **Methodology**

The methodology of my capstone project is separated into five distinct parts. My research sought to demonstrate how students learn specific content areas of social science, language arts, math and science, while engaging in an art-integrated unit of that subject area. I have studied and described how the students learned, their development of a community in the classroom and how they met the California standards. The first portion of the project was predominantly curriculum research and designing lesson units for an eight-week curriculum for fourth grade following the California Standards. My research also included parent requests and input, academic research, examination of the state standards, and research into materials and places available in my area for field trips. The second phase of the project was putting the curriculum into practice in a classroom setting. I used 10 of my students in my home school program. The third phase was conducting action and observational research in my classroom while students were engaged in the lessons. I have evaluation information that is included in this section. The fourth phase was to design and build a website that housed the four areas of the curriculum: social science, math, language arts, and science, for a total of 32 complete lessons. Each lesson has supporting worksheets and teacher procedures for a total of 204 pages of information. The fifth and final portion of the project is this research supporting paper.

### **Research and Design of Curriculum Lesson Units**

I own a small private school that is based upon art integrated curriculum. Every subject I teach has art woven through it, and from what I have observed in the classroom, students are responding to the overall content and retaining the information because they have hands on experiences with the subject. Working in a classroom for the last two years, along with my

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classes at the University of Florida, has helped refine my skills in curriculum development. Based upon what I have experienced in the classroom, eight week lesson units were written and produced to use in a field study of art integrated curriculum. My curriculum was put together to accommodate the growth of kids who have special abilities and needs and are homeschooled because they may not fit into the box of public schools. This year alone, I have 35 students with different needs and learning styles (Tourette's, Asperger's, ADD, AHDD, ODD, PDD-NOS, gifted, visual learners, auditory learners, bullied kids and autism). Most of these students have not been successful enough to maintain advancement through grade levels and succeed in a regular public school classroom with thirty to forty students and one teacher. Based upon state requirements, input from the parents and my passion for art, I designed a curriculum to meet the student's variety of needs and to comply with California state standards.

During the development stage of curriculum design, I looked at the curriculum standards and requirements and decided what educational purposes I wanted to present, what experiences I hoped to provide the students, and how to organize the lessons in a building block manner, one preceding the other. I am very interested in Jerome Bruner's (1960) theory of constructivism. Bruner posit that knowledge is constructed by the learner, not given by the teacher. Bruner's model of human development has influenced psychological and educational thought over the past 60 years (Overbaugh, 2004). Bruner describes the general learning process in the following manner: A child will already know what they are experiencing by a material they are familiar with and when given a new material, they will often find some type of match between what they are doing in the outside world and a past lesson they have been taught (Bruner, 1960).

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*Figure 8. Beginning the collage map*

The discovery involves an internal reorganization of previously known ideas in their brain and the child has to establish a better fit between those ideas and regularities of an encounter, the child will accommodate those ideas and process them and reorganize the encounter (Bruner, 1973). Discovery learning is an inquiry-based, constructivist learning theory that takes place in problem solving situations where the learner draws on their own past experience and existing knowledge to discover facts and relationships and new truths to be learned (Bruner, 1966). Students interact with the world by exploring and manipulating objects, wrestling with questions and controversies, or performing experiments. Interjecting this thought of balance into art integrated curriculum seemed a natural companion. For example, taking materials such as paint, which most students have used in preschool or kindergarten, and incorporating it into a watercolor of a California Mission. The students learn one point perspective, how to handle the watercolor medium and also draw the mission and surrounding landscape prior to painting. This provides a transition to a more difficult project, one suitable to their skills in 4<sup>th</sup> grade of understanding how the missions were established, the effects of

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colonialism and the extinction of the Native culture in California. Interaction between art and subject matter seems a natural companion. Such is the basis of my approach to arts-based interdisciplinary integrated curriculum construction.

### **Practice of the Curriculum**

Social Science is one of my favorite subject areas to integrate with art and the 4<sup>th</sup> grade standards require student's study of the history of California from exploration to the 21<sup>st</sup> century.



*Figure 9. Working on the collage map*

Living in the San Francisco Bay Area, there are several opportunities for art and history exploration. For instance, there are several Native American historical parks to visit, (see Figure 10 and 11), tall sailing ships from the 18<sup>th</sup> century that are living museums tied to the docks on the bay and the Silicon Valley technology sector.

The implementation of my integrated arts curriculum took place over the course of eight weeks of continuous classroom time. I sought and obtained IRB approval from the University of

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Florida, parental consents and student assents for participation as subjects in my study. There were ten children, 4 boys and 6 girls, ranging in age from 8-10 years involved in the research. Each child was assigned a number for purposes of record keeping and the names used in this report have been changed. Most of the pictures are strictly of the art projects and the process of art, and there are no identifiable pictures of the students. A completed curriculum for 4<sup>th</sup> grade, following the standards of California in the four subjects, is posted my website. The website houses comprehensive units of study for each week and includes:

1. Objectives and learning outcomes
2. Preparation and supporting materials
3. Student activities
4. Assessment
5. California standards
6. Changes or successes in the students

An example of one unit of study for social science, is a the diverse geography of California, whose elevation ranges in elevation from 210 feet below sea level in the Mohave Desert to over 14,190 feet at the top of Mount Whitney in the Sierra Mountains. The learning is through the use of maps. They make an individual elevation map from salt dough, painting it to reflect the diversity of California's geology. As community groups, they transition to make a five foot California map collage, (see Figure 8 and 9) showing the geography through the use of color, symbols, shapes, scale, and other visual information. The students started with butcher paper and drew the outlines of the state. Then they divided the state into desert, mountains, valleys, hills, and water. Colors were decided upon by the group and the hunt was on in magazines for color



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pages. They cut, placed and glued colored pieces to represent different areas, covering the entire paper. When hung on the wall, the geographic features of California were apparent.



*Figure 10. Scavenger hunt on the Native American field trip expedition*

### **Analysis of Learning Styles**

Action research uses a number of assessment tools, and I used several forms to understand the students that I would be creating the curriculum for and using in the classroom (Delacruz, in press). The information was kept confidential in my research paper and on the website I did not identify any particular student and the images focus on the art and the art making and not the faces, I managed the confidentiality of the students by assigning a number to their personal files. The first form is an admissions analysis; (see Table 1), which involves parental feedback and information about their child, coupled with my own observations about each student. I interviewed each parent for 10-15 minutes and then I observed the student in the classroom setting with other students to identify their learning styles. I use this form as standard practice for

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assessment and is a great tool for action research. Below is some sample notes based on interviews of the parents:

<p><b>Parent request for student education:</b></p> <p>4<sup>th</sup> grade curriculum: California History, Science: earth, rock &amp; mineral, animals of the world; Math, Language Arts, Art History: Cave to modern.</p> <p>Project based family, activities instead of homework, and no exceptions to art content.</p>	<p><b>Teacher observations:</b></p> <p>Confident in math and understands concepts beyond her age. Student has some trouble understanding assignments in other subjects, especially in language arts, science &amp; history. She doesn't grasp the basic concepts such as what was lectured or discussed in class, tends to daydream. Would rather draw than write, visual learner, shuts down with auditory learning.</p>
<p><b>Any special needs or requirements:</b></p> <p>Only 8 years old but is one grade level ahead. Loves science and math, hates to write, is hands on.</p>	
<p><b>Parent request for student education:</b></p> <p>4<sup>th</sup> grade curriculum: California History, Science: earth, rock &amp; mineral, animals of the world; Math, Language Arts, Art History: Cave to modern.</p> <p>Type homework instead of writing, no exceptions to art content.</p>	<p><b>Teacher observations:</b></p> <p>Seems very bright, but cognition skills are mixed. He struggles with math, language arts and history. Geography and science are his strong points. Cannot write a simple sentence, writes in large letters and most time it is not readable. He does not have eye contact and is always looking out the window, although he absorbs most of the material through osmosis. He rarely completes assignments or reports.</p>
<p><b>Any special needs or requirements:</b></p> <p>High function autism: Asperger's Syndrome, on a gluten free diet, has severe panic and anxiety disorder.</p>	

*Table 1.* Deborah Gustlin's notes from interviews for student one, two and three.

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The second form I used is the Classroom Curriculum Evaluation form, (see Figure 2). I use one of these forms for each lesson in order to evaluate the organization, objectives, skill/technique development, independence/collaboration and what went right or wrong during the lesson. This form proved to be the most beneficial during the evaluations of my program. The form also included the date, time, title of lesson, capacity of the class, description, and location of the lesson as most units had at least one field trip if not 2 or 3 trips. I also wrote on the back of the paper anecdotal stories that transpired during the lessons. After the lesson was finished, I looked over the curriculum plans and made changes depending on the initial outcomes as reflected on my evaluation forms.



*Figure 11. Work in the classroom after a field trip to Sutter's Fort*

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<b>Classroom Curriculum Evaluation</b>	
Title of Lesson:	California History
Location:	Classroom and Chitactac County Park
Date of Class:	3-1-12
Class Times:	9am-2pm
Class Capacity:	10
<ul style="list-style-type: none"> <li>• Planning/organization</li> </ul>	Using lesson one, I planned a field trip to the Chitactac County Park. After a tour from a docent, we will sit under the Ramada for the field trip notes and projects.
<ul style="list-style-type: none"> <li>• Lesson Objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Learn about Native Americans who have lived along the coast, inland valleys, mountains and deserts of California for over 10,000 years.</li> <li>• Learn the Native people’s distribution, social organization, legends and beliefs, and economic activities.</li> <li>• Explore of the environment and geographic factors that influenced the location of the settlements in California.</li> </ul>
<ul style="list-style-type: none"> <li>• Things that went right:</li> </ul>	The students really liked the scavenger hunt for the answers to the worksheet and making the native bracelets from the sea shells we found at the river’s edge. Grinding acorns started off fun, but they grew weary of the hard work! Making the fishing poles and hooks was exciting.
<ul style="list-style-type: none"> <li>• Skill/technique development</li> </ul>	Knowledge of the Native American tribes that lived in the area. We made fishing poles, dug worms, and fished in the river. The students ground acorns they found from the same trees. Using the Chitactac process, grinding them in the mortars in the rocks.
<ul style="list-style-type: none"> <li>• Things that went wrong:</li> </ul>	Grinding the acorns until they could see the mash took too long and they lost interest. One of the students fell into the water and soon they all were in the river!
<ul style="list-style-type: none"> <li>• Independence/collaboration</li> </ul>	The community approach to the lesson grouped five students together. All of the students participated in two separate plays about the Chitactac Native Americans that lived in this area for over 20,000 years. Skits were written, costumes and props designed by each group and presented as their final project for this lesson.

Table 2. Classroom Curriculum Evaluation

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## Design and Building a Website

Designing the website was an exciting part of this capstone project. My entire capstone project is located on my school's website: [www.sycamoreartschool.com](http://www.sycamoreartschool.com) and accessible from a link to the University of Florida tab (see Figure 12). The lesson unit page is divided into four sections, listing each week's lesson. The individual lesson plans have detailed information about the objectives, learning outcomes, resources and supporting materials, student activities, assessment and the California State Standards pertinent to each lesson. Teacher procedures and worksheets are available on each lesson page.

The individual lesson plans were designed to be easy to read and access information quickly. Teachers have lesson procedures and worksheets in a PDF format that they can print for the students. The procedures have links to many websites for detailed information about the subject, place or area of interest being studied that week. The home page for my schools website also includes information for parents, curriculum, and class schedules.

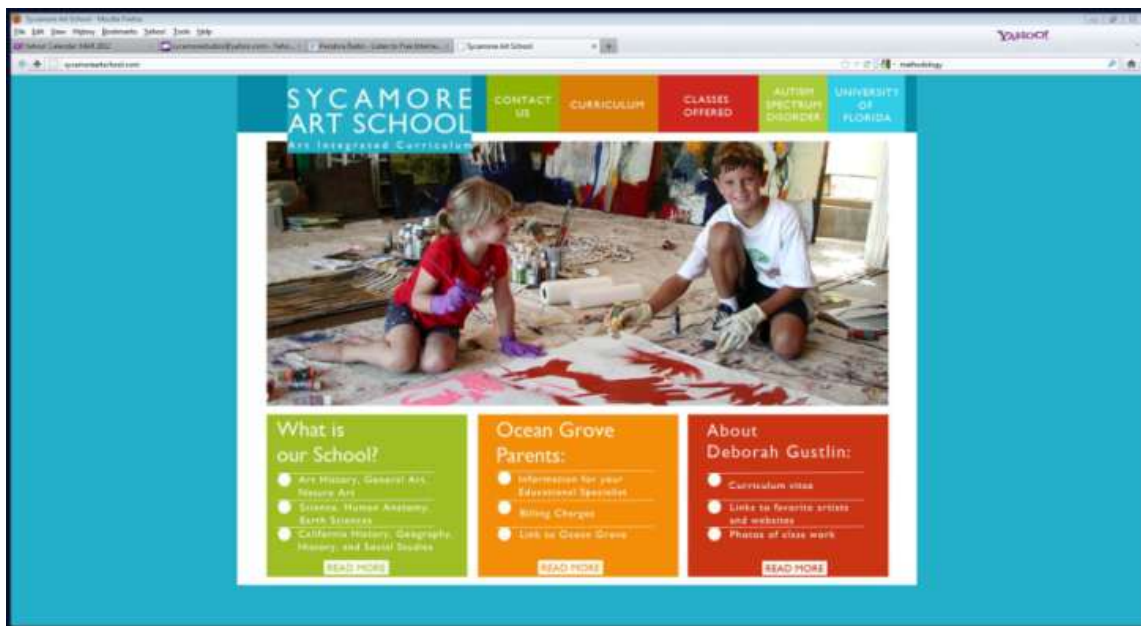


Figure 12. Home page of Sycamore Art School

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The second page, (see Figure 13), of the website displays the four core subjects and lists the weeks in order of the lessons. Each week is clickable and opens up a lesson page housing all the information for the week, (see Figure 14).

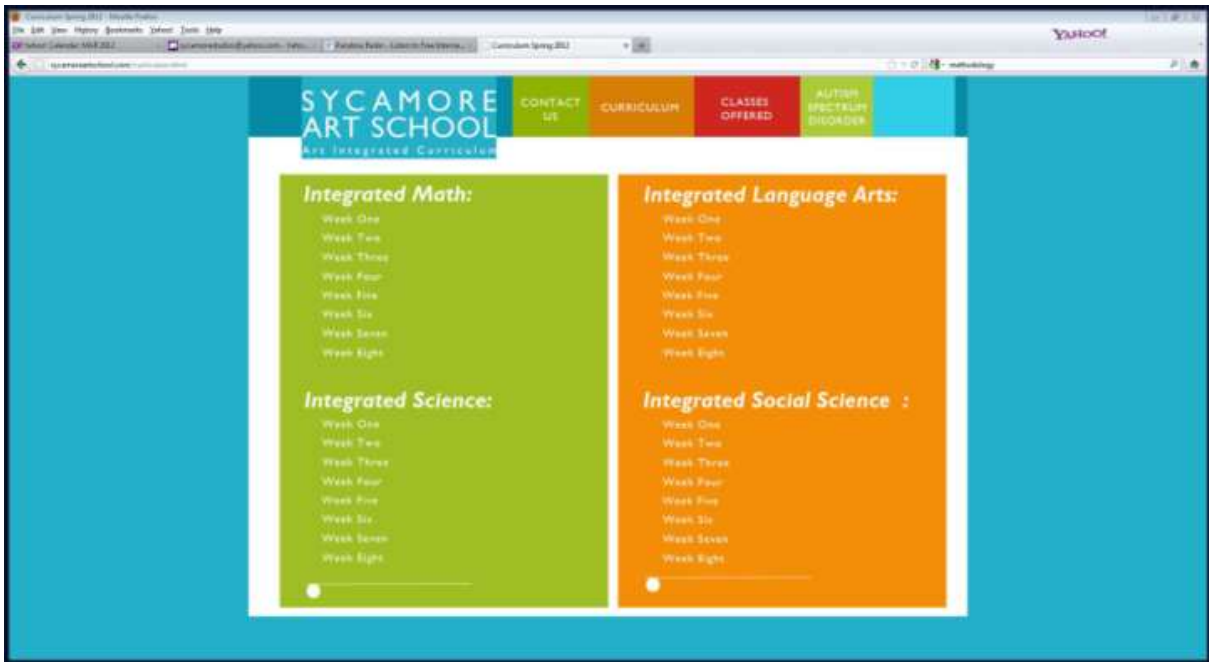


Figure 13. Lesson plans for subjects

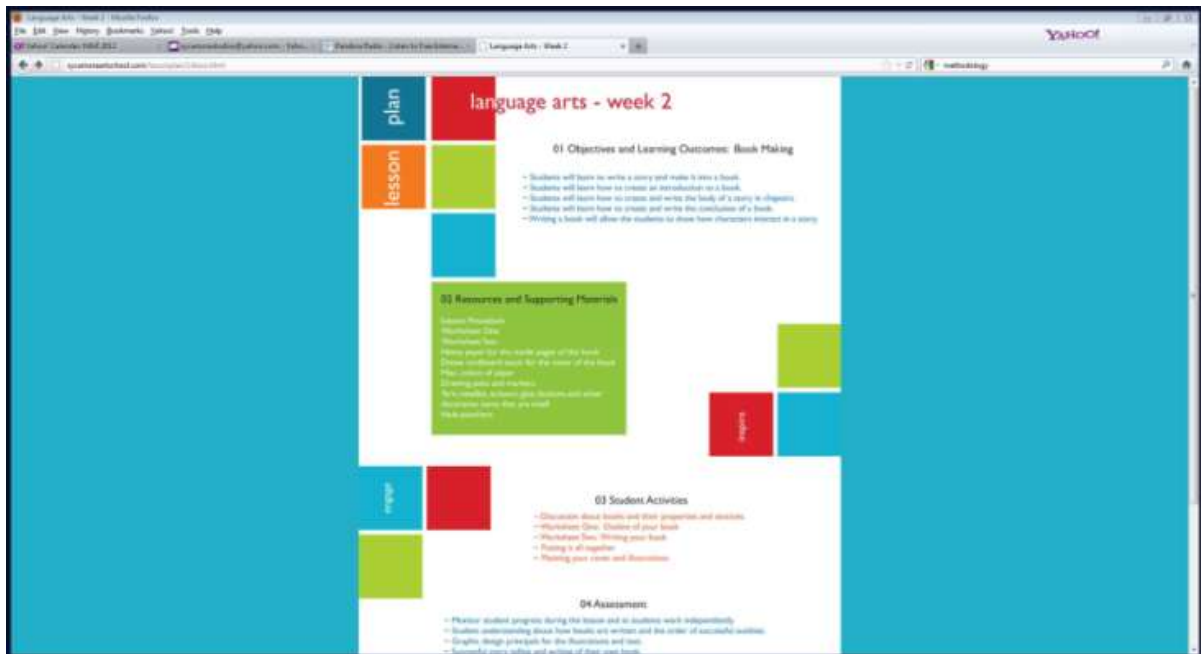


Figure 14. Teachers procedures

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Each lesson plan has several supporting pages that include teacher's instructions, worksheets, and external website information.

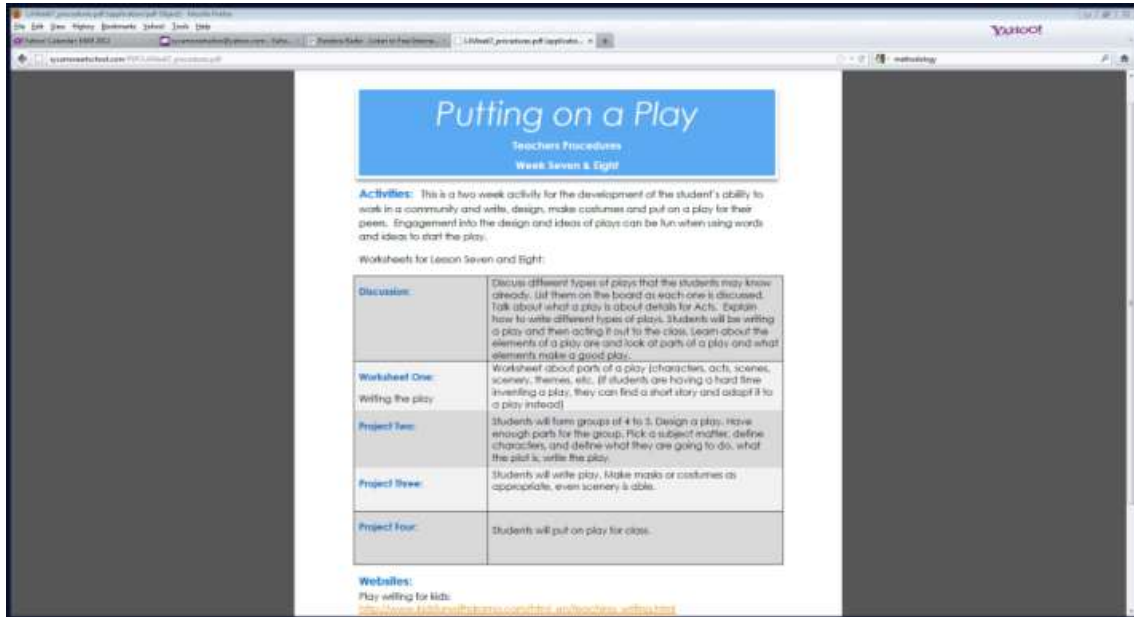


Figure 15. Individual lesson plans

When I first started this project, I put together a flow chart plan to help organize my thoughts, processes and ideas. I started with the idea of art integrated lesson plans and divided the idea into four distinct areas, (a) research (b) observation of students (c) curriculum writing and (d) findings. Each of the four areas was expanded to meet the needs of my project and (see Figure 16) is the details of the plan for my capstone project. I used this road map throughout my lesson plan development, research and findings to keep my process focused and on track for the deadlines of the capstone project.



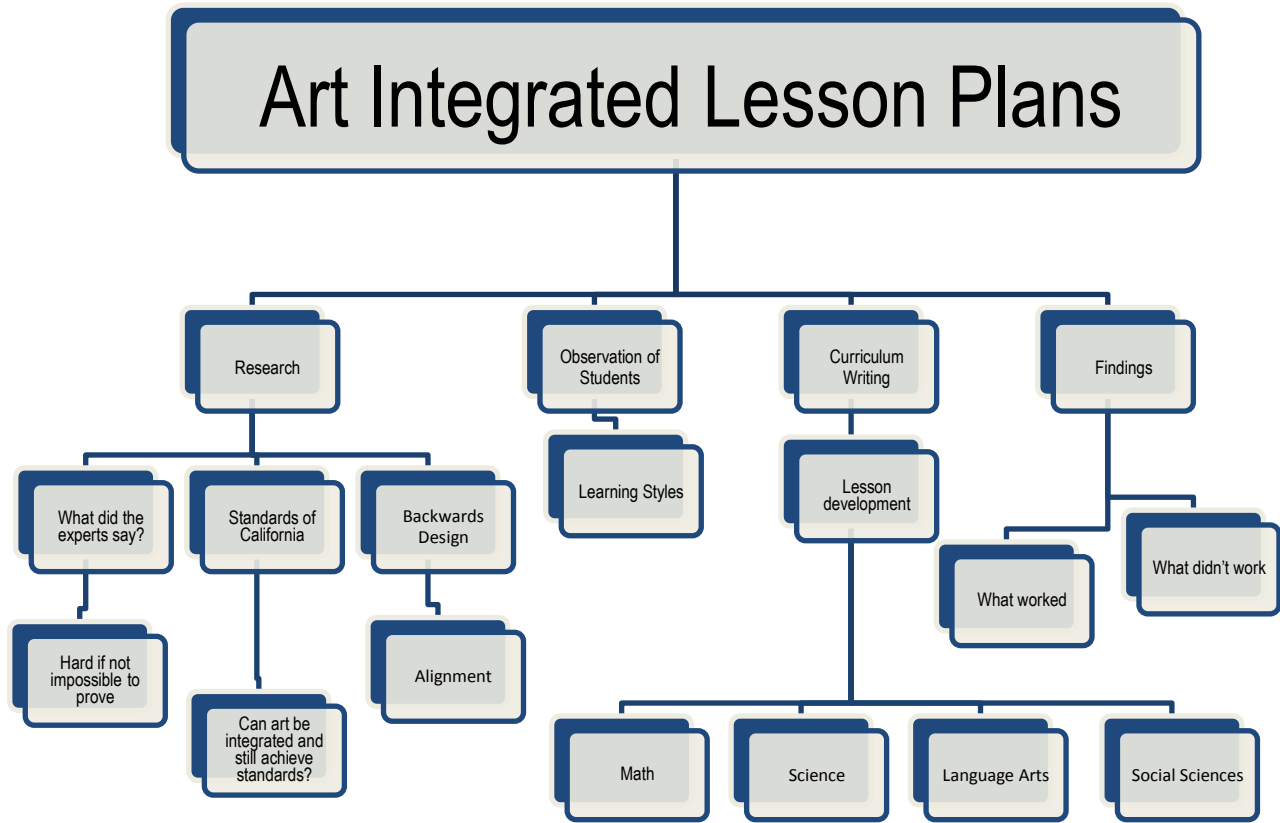


Figure 16. Process diagram



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## CHAPTER FOUR

### Findings and Discussions

Over the last three months, I have been working on the development of the art integrated curriculum, website construction, and research of the curriculum in my classroom of 4<sup>th</sup> graders. By using participatory action research, I was able to interact with my students and observe how they responded to the lesson units (Delacruz, in press). The curriculum was developed with the integration of arts across multiple disciplines. The math units were designed to include measurement, fractional thinking, number management and patterns. Students learned the relationship between spatial and geometric shapes, between two dimensional and three dimensional forms. I used the quilt and the art of quilting as the method to integrate art. In language arts, the students were asked to develop, write and put on a play because arts can teach students methods of learning language skills when they are using their hands, mind, senses and feet. They also learned about writing stories and book construction and made their own book and story. History and science integration allowed for hands on active learning and brought vitality into these subjects by exploring the art within the subjects.

As I observed in the classroom for eight weeks, I keep a journal of student comments, stories they told and methods they experienced. By using narrative research, I started to follow these stories of the human experience and the student's response to the new curriculum (Moen, 2006). Using narrative research allows you to venture beyond one human subject and understand human development and functions as a small group or community (Moen, 2006). The narrative is a story, based upon action or observational research which tells a sequence of events as they unfold, capturing both the individual and the context (Moen, 2006).

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Observation during the lessons is a strategy of action research (Delacruz, in press). What I have noticed during the research is students really engage when using more than a pencil and a lined piece of paper or when they pull out worksheets only to complete assignments. When exploring multiple mediums (which could be dirt and worms, paint, plaster, solar panels, etc.) excitement ignites the classroom into a working laboratory of interactive exploration. In science, when studying solar energy, we designed and built solar panel vehicles, painted them and raced them down the half mile driveway. Emergent and responsive curriculum design requires constant tweaking and improvement by the teacher, often with the help of the student input which is available through the research (Douglas & Jaquith, 2009). I am positive that when these lesson units are used again in the fall for the next set of 4<sup>th</sup> graders, they will evolve, and continue to do so in years to come, as they should.

### **Learning of Subject Matter in Specific Content Area**

A few months ago, I had a parent stop by to discuss curriculum for a prospective new student. She told me, “Deborah, I like the idea of art integration, but coloring maps in geography class really isn’t art integration. How do you actually combine them effectively?” Understanding her resistance, I replied, “Integrated curriculum is easy if you have an art education background to seamlessly weave the art and make the connections as long as you are familiar with the subject matter.”

While making the quilts in math lesson 8, a student brought in a picture of a quilt that her great, great-grandmother made over 50 years ago. Instead of designing her own quilt like the instructions, her quilt took on the look and feel of her great, great-grandmothers, and her recreation of into the story behind the quilt brought a quiet hush over the classroom,

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My great, great-grandmother was on a wagon train that came west from Texas to the Arizona territory. She was just a little girl, but she tells me the stories about their three-month journey like when her brother died from a rattlesnake bite, and when they fought the Native Americans as they were passing through their land. They arrived in Arizona and bought 120 acres of scrub brush and raised cattle. It was hot in the summer and very cold in the winter. My great, great-grandmother made this quilt for my great-grandmother when she got married. (Personal communication, Susan, February, 7, 2012)

Susan related this story as she held up the picture proudly. In every class I observed the connections between the lessons and life, and the link was art.

### **Development of a Sense of Community in the Classroom**

“Miss Deborah, Paul is in the closet again, making those strange noises,” Anna said as she rushed up to my side. I went to the closet and opened the door, Paul was in a fetal position, humming and flapping his hands in front of his face. I convinced him to join us back at the table as we were going to write our own “Diary” with pictures. Picking up paper and paint, I headed back to the rest of the class at the tables. I explained that they will write a diary for the 21<sup>st</sup> century of California history. They jumped in and got started with the 12 pages. Paul returned to the table about 5 minutes later and picked up a pre-stapled book and started to write. Paul is on the autism spectrum.

Autism is defined as the brain disorder that begins in early childhood and persists all the way through life. It affects three areas of development: Verbal and non-verbal communication, social interaction, and creative or imaginative play. Teachers who taught reading, have reported that children, who drew the characters and subjects from the books they were reading, were more

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motivated and retained more comprehension of the book (Brookes, 1997). Frequently, autistic children fixate on one object, for instance trains, a popular, tangible obsession.

All the children around my tables were busy writing and illustrating with passion, including Paul. Although writing is hard for Paul, he finished, raised his diary into the air and announced

I'm done, can I read mine now? The Geek Diary by Paul. This is about me, I have Asperger's Syndrome and my brain is wired differently. This is my brain and this is a normal brain (he points to the drawings), but I have special talents like I am really good at video games, Legos and science. The End. (Personal communication, Paul, January 18, 2012)

After a longer than normal silence, at least for this class, Drew asked "What is normal anyway?" Xavier announced "We are all built differently and have things we are good at." Aimee added, "You should change the word normal." Everyone started to talk at the same time, all denouncing the standard idea of normal. After weeks of school together, this group of 8-10 year olds has become a community, one that protects each other. The lessons we learned about the diversity of California during social science were translating into everyday life. As I sat and watched the dynamics unfold, it became apparent that art has the potential to build communities.

When we eliminate art from our students' curriculum, we are possibly eliminating their ability to achieve success and we create schools that fail all our children. When children work together in small communities, they work as a team and can achieve greatness. They can understand diversity and differences while learning how to examine and explore connections to learn.

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### **Meeting the State Academic Standards of California**

Meeting the standards of the State of California is sometimes difficult and in many cases, the standards have been aligned with the state standardized tests (Drake & Burns, 2004). Federal government funding to school districts may be subjects exposed to cuts if schools do not meet minimum state standards. “Educators know that when they simply cover required standards, the students are not necessarily motivated to learn as lessons can be dull and tedious for both teachers and students” (Drake & Burns, 2004). Integrating the curriculum with art can be difficult when the risks are so high with state testing looming over your shoulder. However, we should be putting the needs of the students ahead of standardized testing and design curriculum that motivates in a multiple learning environment, invent teaching strategies that affect learning and plans to supplement the learning process (Drake & Burns, 2004). During curriculum development, I referred to the standards of California as a guide for designing the units. I also used the students as a guide for refinement and inspiration.

Nicole is an eight year old that is very difficult to reach. She daydreams frequently and she retains little information that is discussed in class. She has difficulties communicating about what was just talked about in a discussion or lecture. In science one day, I decided to have the students try illustrating a twelve page book in the style of an author whose books are cartoon illustrated and water colored. While everyone was busy outlining their story and had begun to write, Nicole sat, pencil in hand, blank paper in front of her, staring at the wall. I tried to encourage her to write a simple outline about one animal instead of the whole rainforest as the assignment stated. We started with her favorite animal, snakes and I asked her to write three items about snakes that she could recall. After slow writing and systematic stalling, I asked her to write three items about

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where they lived based upon our discussion and movie about the rainforest. Okay, Nicole's book was going to be a very simple, but it was the concepts I was after.

I set watercolor paper in front of her and a book about snakes and asked her to draw one. She hesitated, but started and erased and drew and erased, frustration apparent. I brought out a book on how to draw cartoon animals that I was using in another class. I opened the book up and found a snake. I explained to Nicole how to draw the caricature on the board and when I looked over at her paper, she had already drawn the snake and the tree it was wrapped around. She asked if she could find another animal in the book to draw and she flipped to a monkey and drew it...without my help or instruction. To my amazement, Nicole spent the rest of the day in class illustrating her book that grew from a simple 3 pages to 22! Every page had a cartoon animal and every page had words describing the animal and its environment. She worked through lunch, eating as she drew. She asked to take the books home, and her mom sent me a text message that she had drawn until it was time for bed and asked to go to the library the next day and check out some more cartoon books.

Nicole found her learning environment, her style and her interests through drawing cartoons. To this day, she draws her lecture notes, she uses cartoons to describe her projects, she is grasping concepts that we are learning and is on task for the fourth grade curriculum now, all because she picked up a pencil and drew a line. All of this took place because of an art integrated program and the flexibility it allows.

The fundamentals of backwards design are to align the curriculum into a coherent framework of lessons, instruction and assessment (Drake & Burns, 2004). There are two types of alignment, external which aligns the curriculum with standards; and internal which is alignment to decode the performance requirements embedded in them (Drake & Burns, 2004). When I

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developed the lesson units, I broke down the standards into sections and paired it with some type of art related project. By varying the art project mediums, the students are exposed to areas of art they are unfamiliar with, (see Figure 17), and it provides them with a new experience which brings excitement for learning. It has been my observation in the classroom that if you take a subject and combine it with some type of art, the students will grasp the concept being taught. Not every educator who conducts action research would come to the same conclusions or interpretations (Delacruz, in press).

Paul struggled in class and it seemed that the only time he was engaged was during the art portion of the lesson. Math seemed to be his worst subject, at age 10, he was only adding and subtracting 2 digit numbers, and he did not know how to multiply or divide. Integrating art with math is a natural method for Autism spectrum children. The drawing systems emphasize spatial relationships and structural parts, “a useful strategy considering the fact that young artists with autism frequently focus on the geometric structure of a visual scene and on the forms and



*Figure 17. Painting like Pollock*

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structures of objects themselves in their drawings” (Kellman, 2004, p. 16). I placed plastic shapes on the table with paper and pencils for Paul to draw the shapes of mathematics to help him make connections. Paul has started to respond to the integrated math and began to interpret fractions in the lesson about quilts and the different shapes in quilts. Now he understands math concepts in relationship to visual stimulation of shapes and colors and can distinguish between angles, repetition and sequence development.

### **Insights and Speculations**

The learning and study of art should not be studied in isolation but instead studied in a community situation such as large tables in a classroom, studio or even outside (Efland, 2002). Interpreting and engaging in art can become a joyous occasion for students. A lesson on color theory and exploring color mixing culminated in an outside session with large cans of paint, paper and brushes. Involved in throwing paint onto paper, the student’s activity morphed into finger painting and face painting and still today, they talk about it like it was yesterday. They remember, they are excited when talking about Jackson Pollock and they have the building blocks to continue with other modern art painters.

Children come to kindergarten with an art integrated preschool knowledge of education. They draw, paint and verbally articulate several stories through art. Why then, do we confiscate the paint brushes when children enter first grade? The arts are seamlessly woven into their daily life until we ‘devalue their artistic expression’ with accountability in literacy and math activity while sitting in a formal classroom setting (Davis, 2012). The creativity of our children is declining as they spend more time in the paper and pencil, bubble strategy core subjects that are measured by state tests. There are valid reasons and reliable research that corroborate positioning art back into the classroom through art integration. The integration of art has the potential to modernize the



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way we currently teach our children and a curriculum research development project is at the core of my capstone thesis project.

The assessment of the art integrated classroom is an observation and evidence gathering process. I found an idea, wrote the curriculum, implemented the lessons into the classroom and watched the process unfold. A journal of classroom activity and observations was set up and compared against the learning objectives in the written lessons. I believe the project was successful as art settles the mind.

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## CHAPTER FIVE

### Final Thoughts and Implications

When I think of arts integration, I visualize theatre, dance, music and visual art. Deasy (2003) defined arts integration as an “effort to build a set of relationships between learning in the arts and learning in the other skills and subjects in the curriculum.” (p. 2). Combining the arts and subject matters into a cohesive curriculum would be a formidable task for the state of California. One way to slowly add integration would be to start a magnet school where all the classrooms revolve around the integrated curriculum which would be a central hub to the students. Another challenge is changing the staff structure to encompass an art teacher and interns. It would be more like a community based teaching instead of an independent, one room classroom, which is standard.

This capstone project was instrumental in my research on art integration, yet there are questions unanswered. What is the next step and how can I influence a local school district to consider changing the curriculum to an arts-based program? How do I create a magnet school and find a school board that is receptive to change? These are areas I want to explore.

Brent Wilson (1994) states in *Reflections on the relationships among art, life and research*, that “Research is the archeology of knowledge” (p. 198). Art integration archeology was a fact finding mission for me and consisted of digging (research) and discovery (findings) of artifacts. I assembled the knowledge and reconstructed the standards into lesson plans. Through observation and analysis during the capstone project, I saw that art integration into core curriculum was a viable knowledge-building process; it promoted learning in my classroom. I am looking for a direction in the 21<sup>st</sup> century and we are the educators of the future who are responsible for the development and implementation of new and diverse curriculum.

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### **Implications of My Findings**

The purpose of art integration is to facilitate learning and I believe that there are several indicators that demonstrate that it does in fact work. The meaning and significance of my project was to see if the students connected art to the subject study, making sense and meanings of the ideas and did they join together to work as a community. This study found that using art integration can accommodate multiple levels of student's needs and engage them to learn in a creative environment.

### **Rethinking My Assumptions**

I had taken for granted that the idea of art integration would be easy in a classroom. But the current curriculum and standards can be difficult to intertwine into a meaningful and accurate art integrated lesson. There is a link between art integration and increased knowledge of the core subjects and proving that arts-based integrated curriculum increases student academic performance in the core subjects could be difficult.

### **Answering Research Questions**

My research questions sought to know how an arts-based, interdisciplinary, integrated curriculum might be constructed, implemented, and how well it worked with school age children. I can say now with confidence that my goals underlying such questions (that is, providing content rich, arts-enhanced, and engaging learning opportunities for my students) were successfully implemented and my students prospered using art integrated lessons. The purpose of art integration is to facilitate learning and I believe that there are several indicators that demonstrated it does in fact work. I connected the standards to the lessons in ways that I felt were seamless and effortless. The connectivity for the students resulted in a community atmosphere that flourished, allowing students to understand how to work in groups and prepare

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for their future in the business world. Art integration is the entanglement between art and all other subjects. I believe that this research project demonstrates that art integration does in fact work. There is a link between art integration and increased knowledge of the core subjects and making that link is relatively easy to accomplish. Students have connected art to the subject study, making sense and meanings of the ideas and joined together to work as a community. The purpose of art integration is to accommodate multiple levels of children's needs and engage them to learn in a creative environment.

### **Recommendations for Art Education Theory and Practice in Art Education, Lingering Questions and Suggestions for Further Research**

My research is limited in scope, scale, and generalizability, yet my observations and findings demonstrate the power of an arts integrated curriculum. My own further research on this topic might include any of the following:

- Develop my observational instruments used for this study into more holistic methods for evaluation of students, instead of relying exclusively on bubble tests. Pilot test those holistic methods for possible wide scale use in public schools.
- Conduct studies on how to structure the school environment which includes teachers, artists, interns and classrooms. It would need to include teacher training, resources from the school districts and the state of California. Parent support for the arts in public school is also important.
- Continue on into a doctoral program and research art integration for my dissertation.
- Write a yearlong curriculum of art integration that meets the standards of California for homeschooled 4<sup>th</sup> graders. This website would be available for parents to use for their children.

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- Take one subject like social science and turn it in to a k-6 program that spans a year of art integration curriculum. Or use other subjects and turn it in to a k-6 program that spans a year of art integration curriculum.

Why is it so difficult to demonstrate that art integration actually benefits the students? I think it is because we are using standardized testing which does not measure anything but memorization, teaching to the test and having students practice filling in bubbles. How can we gather data to support an integrated curriculum if we cannot implement the program into a school? These questions and others will be asked until a curriculum for the 21<sup>st</sup> century can be written.

I think expanding charter schools may be one answer. An arts integrated curriculum can be developed and used. A charter school might be science based, but would have art integrated into the curriculum. Or it could be based on mathematics or language arts or another focus depending on the area and the parents. Art integration can work regardless of the subject matter. Different types of testing might be used. Standards can still be used with a pre/posttest about knowledge learned in the school year. We are building technology into the curriculum with computers and ipad. But these are passive, solitary elements that don't use all of the student's senses and learning styles. But most important, they don't build communities and tolerance.

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### BIOGRAPHICAL SKETCH

Deborah Zoe Gustlin was born in San Diego, California and moved to the San Francisco Bay Area when she was nine years old. She graduated from the Culinary Institute of America, Hyde Park, New York, in 1991 and worked in the hotel industry for years afterwards in Convention Services as the Director of Operations. She was married in 1995 and after a divorce and as a single mother she decided to return to school and enrolled in art classes at Gavilan College. After graduating with an Associates of Art, Deborah transferred to San Jose State University, graduating with a Bachelors of Arts in Graphic Design and a Minor in Art History. Continuing with her education, she enrolled in the University of Florida's first Online Masters of Art Education and is completing this Capstone Project as the culmination of two years in the program.

Deborah currently lives south of Silicon Valley in Morgan Hill, California. She has two children, Benjamin, age 13 and Hannah, age 11, and her beloved chocolate Labrador, Sienna, age 5. Deborah operates and teaches in a private school for home schooled children ages K-12. She specializes in an art-integrated curriculum that crosses grade levels and ages. She also integrates special needs children into the classes and programs. Deborah has recently been accepted into the Kalmanovitz School of Education Doctoral program at Saint Mary's College, Moraga, California to continue her education.