ART: A VISUAL LEARNING TOOL OF EXPRESSION FOR DISABLED AND NON-VERBAL LEARNERS

by

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TABLE OF CONTENTS

LIST OF FIGURES

APPENDIX A:

APPENDIX B:

Chapter One

INTRODUCTION

I gently guide the back of my deaf student's hand as I motion with my other hand how to pound the clay with her open palm. I am instructing a ceramics class of special need learners and guiding them through manipulating the clay. After I taught this class for two years, I decided to embark on my graduate career in hopes of cultivating in students with disabilities the possibility of a choice to be heard in what may be a non-linguistic world. In this project, I want to discuss art education as an effective tool for giving students with special needs the benefits of expressing their inner most feelings and thoughts through visual art making, and showing them that they are capable of critical thinking and problem solving. This can be achieved in the art classroom or an arts integrated program that is specific to a given curricula.

The federal definition of Individuals with Disabilities Act (2006) or IDEA is a "child with a disability as a child with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, or other health impairments or specific learning disabilities; and [because of that condition] needs special education and related services" (Title 20 of the United States Code). I am especially interested in students who cannot verbally communicate their own emotions or give reactions to learned material that would normally require a spoken response; including English Language Learners and non-native speakers. I want to find viable solutions for these students that would enable them to mesh into a mainstream classroom and feel like they count and are part of a whole. This, I believe, can only happen through a network of

ideas and concepts that are being researched and applied currently and pushed to the edge of acceptance.

In Chapter Two, I will look at several authors who share my passion for creating better systems for our youth to excel in, which includes all levels of ability. I have an array of goals that I have outlined for my own achievement as an educator, and I can begin to hope that these become a reality for our school systems too.

The conceptual framework for this Applied Project has three parts. First, I want to explore the different ways a student with special needs can use art as a tool for expression for various subject matters. Second, I want to delve into the possibilities of arts integration for students with low-verbal skills and its potential impact in a curriculum. Next, I want to discuss how a child can interpret multi-level meanings from a lesson with all types of art as a solution to visual understanding and learned concepts. This framework supports my belief that children can express deeper cognitive processes by making a visual creation, and this is linked to higher thinking principles. An outcome for this Applied Project is to provide useful information to teachers that allow them to create a more successful atmosphere for learning. I think this simple yet valuable goal can improve the art programs that are available to different learners in our schools.

Purpose of the Project

In order to better understand the extent to which visual response may help non-verbal learners communicate, I observed teachers within classroom environments who were trying to teach to a whole and attain a level of understanding from the student population that is as acceptable to uniform learning as possible. I saw teachers struggle with the uncertainty that all learners can achieve this ideal curriculum. I feel that if educators are given better strategies and critical information to

address the different levels of learners within a single classroom, then teachers will be more apt to branch out and try new techniques to ensure that all populations are receiving valuable instruction.

As important as teacher preparedness may be, giving students a voice through art and art techniques is essential to me. I believe that a child can convey personal meaning and understandings of assigned material through non-conventional written or spoken response. If a child is deficient in verbal skills or communication, I am certain that if given the proper tools and instruction that child can then participate with other learners of different abilities within the same classroom and be as successful as a verbal learner. The purpose of this project is to advocate and inform school systems about the importance of art as a visual learning device for students who require help in communicating personal ideas and emotion or possible critical understanding of material through the creation of constructed visual responses.

Focus Issues

As a teacher I want the most effective strategies and tools available to me in the moment of need. Educators rely on valuable resources that contain useful information and possess clarity. How can I help provide a hands-on tool that can give teachers a quick reference to typical solutions for special need students? Can arts integration provide much needed ties across the curriculum that allow better understanding for all levels of learners? Can non-verbal students make meaningful connections of learned material through a visual response? These are current issues that are in need of being addressed in present classrooms. Unfortunately they are not getting proper attention due to lack of useful strategies and easily accessible support plans.

Summary of the findings

My field observations revealed that special education teachers use a variety of strategies to incorporate the different level of learners within one classroom. I am confident that this type of

modeling can be used in art classrooms and arts integration with a great deal of success. I observed teachers who were able to identify and diffuse potential interruptions that could be a challenge to a classroom teacher who has no experience with special need students. This means I can provide vital information to art teachers that will allow them quick access to pertinent methods and procedures that they can readily utilize. This supports my objective of better preparing teachers by giving useful strategies for more positive learning atmospheres through a hands-on guide.

In Chapter Two I will present my Theoretical Framework and Literature Review. This will establish my need for exploring this subject further and will lead into my field observations in Chapter Three. Also, I will discuss the emergent themes in teaching art to special need populations and the importance of this topic. I will conclude with Chapter Four that will contain my recommendations for the field of art education, and I will supply an advisory for teachers that I will be submitting to the NAEA.

Chapter Two

THEORETICAL FRAMEWORK

Visual thinking strategies can help an educator gauge what a student understands about a specific lesson. The learned material can be assessed though various types of visual output. Eisner (2002) tells us that "visual literacy is the ability to create visual messages and to 'read' messages contained in visual communications." Eisner's definition of the early stages of visual thinking helps to connect the importance of establishing how a child learns. Part of my theoretical framework employs this idea of visual learning and the critical role it can play in bridging connections for students with disabilities and/or non-verbal learners.

I am also interested in integrating art programs across the curriculum to improve student conceptualization or the visualization of a problem. A student might visualize certain math problems by translating them into art forms. The process of making a story quilt can synthesize the lifestyles of early African-Americans. I believe that special needs populations can benefit from a daily schedule of art integration that emphasizes problem visualization.

I have found that the Reggio Emilia approach to early childhood education (Gandini, 1993) supports a lot of my principles of flexible learning for all types of students. In this approach, there is no set curriculum but rather the teacher becomes a facilitator for desired themes. Typically, it is a project-based approach that relies on the art teacher to work closely with other teachers and allows the outcome to unfold naturally as the work progresses. I like this approach because it allows for change and adaption as necessary, which is always a concern while teaching children with various physical and mental abilities. I believe this model can be successful in art classes with partial-inclusion students because the interactions and relationships become essential to a child's learning rather than a finished artwork that may be graded on product instead of process.

Art as conceptual expression

Initially, I would like to investigate some possibilities that students with special needs can use to convey their learning ability to teachers, administrators, counselors, and their parents. If we give this population the necessary tools they need to artistically express themselves, then we will begin to provide the foundation that allows for further individual triumphs. However, "sometimes the frustrations of coping with traditional materials do not lead to requests for tutor help, but to resignation" (Young, 2008, p.117). If these students are not comfortable with using art tools then they may abandon lessons before they even start. If we can adapt these to become more user-friendly then we might open an avenue of uninterrupted expression.

Some special need students also struggle with writing and vocal expression. Visual art may be an easier way, physically and conceptually, to show their understanding of what they are learning. The process of making art can then be "read" or measured in terms of how the student has aesthetically demonstrated what they have learned.

In addition, the research suggests a connection between special needs children and "at-risk" students. Venable (2005) describes how disabled children are not just those with physical impediments, but include those with environmental factors like abuse, poverty, and malnutrition that play an important role in this category. I find this perspective to be true and not so obvious. Therefore, when thinking of special-needs we should not exclude certain in-need children. There needs to be a way to identify these students before they become at-risk and even worse offenders. Venable (2005) states, "Learning to recognize these children and develop strategies for teaching them is a fundamental hurdle for new educators" (p.48). Educators must find ways to help these students appropriately display their level of understanding. A way to accomplish this is to allow students to make art and; provide them the choice of materials and tools appropriate to the subject

matter they are trying to interpret. I know this can be difficult due to time constraints, multiple students, and the possibility of only one teacher, but if this topic were addressed and planned out then the outcomes would be beneficial to both the teachers and students in need. Teachers would have art-making from otherwise unproductive, non-verbal children and the students would have a visual outlet of fulfillment and achievement.

I teach a ceramics class to learning disabled students who have a range of disabilities that includes autism, blindness, deafness, Down syndrome, cerebral palsy, multiple sclerosis, severe intellectual disabilities, and mental health diseases. I look forward to every Friday morning when class is about to start. I know most of these students quite well by now, most of them have been coming to class for about two years. I go into the studio a little early and begin to think about what project I will teach in clay for that lesson. When I first started this class, I stuck to simple forms like bowls and plates because I was told that their cognitive ability levels were so low that they would not be able to comprehend what I wanted. This may be true for a select few, but these participants more than exceeded my expectations every week. They were so eager to make art and really wanted to please me. I have one person in particular that I want to tell a story about. His name is Avery and he is blind and autistic (Avery is a pseudonym, all names have been changed). The first time he came to my class about two years ago, he wouldn't even touch the clay unless I put his hands on it myself. He is very kind and timid, but also has a great sense of this material. At the end of the weekly project I would always ask him what color he wanted to paint his piece and without fail he always said, "White". Slowly, he started coming around and would begin working the clay without waiting for me to place his hands on it and help him manipulate it. One day I asked him what color he wanted, fully expecting the usual response of white, and he replied, "Blue"! What a breakthrough! I had tears of joy in my eyes. In that moment, I realized how every child deserves the opportunity to learn and experience the creative process. In this case art was an effective tool for this student. I want to apply

this idea to situations in public schools and show how it can be effective in all subjects in a curriculum. I think about how a student with special needs struggles through their day trying to catch up to regular education students, and I wonder why art isn't the answer for them. If art is a means of articulating what they have learned in broad areas, then why isn't this technique more widely accepted? Although Venable (2005) describes the benefits of art education, his argument is a viable solution for special need students as well:

> Art education encourages students to validate their experiences by giving them independent visual form...Further, art-making facilitates communication by accessing a visual language in a process that avoids conflict, and ameliorates the entrapments of confinement by offering a mental means of escape. (p. 49)

Special-needs students can use visual language with overwhelming success to convey their understanding of various subject matters in all areas of school (Mason and Steedly, 2006; Rabkin and Redmond, 2006; Riddoch and Waugh, 2003).

Arts integration in the special needs curriculum

This helps to introduce my second goal of arts integration and its benefit to special need students with low verbal skills as well as non-English speaking children. Arts integration is "an instructional strategy that brings the arts into the core of the school day and connects the arts across the curriculum" (Rabkin, 2006, p.60). I believe arts integration can be used to improve in-need students learning and understanding of subjects throughout the curriculum in particular, for those who may have trouble linguistically describing what they know. For instance, an autistic student who understands mathematical problems but cannot verbally read a problem or give an answer in writing may be able to use art as a potential solution by describing pictorially how the problem relates to his own surroundings. Mason and Steedly are introducing rubrics as a way to measure the

success of arts integration programs. Riddoch and Waugh use music to increase the quality of paintings by students with severe intellectual disabilities. Rabkin and Redmond push for more federal funding to better art education programs that help improve academic gains in a school's curriculum by raising standardized test scores. These are steps in the right direction for creating better learning environments for all students, especially those with disabilities.

In *The Arts Make a Difference,* Rabkin (2006) observes a class that is practicing arts integration with in-need students and notes, "Students with social or emotional problems show amazing focus and intensity, taking on tasks they find most frustrating in regular classrooms" (p.61). He goes on to explain that students with writing difficulties can spend hours writing song lyrics through arts integrated programs with music teachers. Rabkin suggests a correlation between art participation and academic performance. Art education can have powerful effects on student achievement, including those who struggle. Rabkin also sketches broad principles for successful art integration programs and links art processes to critical cognitive thinking. These principles include: using artistic resources in the community, pivotal student achievement and school improvement, use of arts media to communicate content, and reflecting each school's particular strengths all can improve curricular connections between art and other subjects. However, this research lacks an in-depth look at the concepts for an actual curriculum that provides an empirical basis for theory. Nevertheless, Rabkin addresses the crucial need for federal, state, and local funding to make these programs possible.

Another article that supports my goal of arts integration and low-verbal skills is *Rubrics and an Arts Integration Community of Practice* by Mason and Steedly (2006). This article uses rubrics as a tool to measure what a student has learned. The authors' state:

> We focused on developing a framework that could enable us to better understand student learning in and through the arts...We then used this framework as a tool in

> our research to enable teachers and teaching artists to translate the often intuitive and ephemeral understanding of learning in and through the arts into something more tangible and concrete. (p.37)

These rubrics are based on Bloom's Taxonomy (1956) and appear to offer effective measurements for student understanding. The participatory Community of Practice was an integral part of creating and using these rubrics. The VSA Arts organization created this Community of Practice through its art community with email listserv, conference calls, and expectations for using rubrics. A hands-on table provided teachers necessary tools to incorporate these rubrics into their own curriculum.

Mason and Steedly also explain how teachers with disabled students can help improve their students' vocabulary and increase detailed writings. By integrating art making into the curriculum, students with poor verbal skills have options to better convey their thoughts in a more critical concrete manner.

Overall, the rubrics give teachers a way to record their students' visual understanding of subjects across the curriculum. Teachers indicated that they became comfortable evaluating student learning using these frameworks. Therefore, with practice and acculturation, the rubrics could be expanded. This is a powerful model for disabled students. By creating art, they describe their knowledge of subjects like music, science, history, and English. Further, they can then be evaluated through these images as tangible sources of their understanding of such areas. For example, when I was teaching my ceramics class one student was able to make a connection about Native American war paint markings, and described to me the meaning of the marks he chose to carve into his clay mask. He demonstrated a visual knowledge of what was learned in a social studies class. This is useful information that can be readily used by educators.

I observed at a local public school and found some examples of arts integration. The middle school art teacher at Clarke Middle School in Athens, GA uses it with her ELL (English Language Learners) by incorporating art and social issues that accompany stories. She had her students create clay face jugs that each address a social issue such as poverty, violence, or pollution and then had them carve words into the pots that represent relevance for the student.

Another example of arts integration at work is a University of Georgia practicum class at Chase Street Elementary. Over a four week period pre-service University of Georgia art education majors worked with Chase Street Elementary students and engaged them to design banners that magnified their world. We used literature to explain the project and then had students add phrases to their finished drawings. These phrases included descriptive extensions, adjectives, adverbs, and metaphoric associations. These extensions correlated to the Georgia Language Arts Performance Standards (see Appendix A, fig.1, 2, &3).

Through arts integration, general educators and administrators have realized the importance of art as a means of facilitating programs within a school community. Therefore, art can no longer be classified as the expendable program that used to be the first to see funding cuts.

How do we see learning?

Elliot Eisner (2002) tells us that evaluation is as important as curricular content. He asserts, "Like teaching, evaluation is often treated as a separate or independent process, something one does after one teaches a curriculum. The fact of the matter is that evaluative activity goes on concurrently with both curricula planning and teaching" (p.150). I think this is true because they are both a part of the whole. One shouldn't exist without the other. When I think of my future classroom, I want assessment and evaluation to be a cohesive part of my teaching practice. I believe the best way to know if what you are teaching a child is valid is to evaluate it on some sort of scale. The

development of pertinent information must be assessed in order to know the quality of standard it possesses.

My next objective to consider is how a child learns visually. This process is important because it allows us to see the broad difference between how a regular education student verses a special education student visually learns. I have found there are two approaches to helping students visually learn. The first is perception, or how a student sees what is around them and interprets it into visual thinking. The second is modeling.

Regarding perception, Costantino (2007) writes, "In visual thinking, the mind manipulates these visual concepts, directly perceived as well as from experience and the imagination...The visual symbols or icons of an artwork are the result of visual thinking" (p. 6). If a student can process viewed information as part of their visual thinking then it can be articulated into an expression of learned visual material. We can visually learn through what we perceive, whether it is prior knowledge or accompanied by our imaginations. In other words, what a child may articulate can be based on previous experiences or layered into their imagination. For example, the Reggio Emilia approach to early childhood learning which is based on teachers following the lead of their students within a curriculum. Danko-Meghee and Slutsky (2007), state "a child using clay to tell a story or to explain an idea or concept is using one of the 100 languages...The clay becomes a language through which thoughts and ideas can be communicated, thus involving critical thinking skills" (p.13).

The other main point in visual thinking is modeling. Modeling is the teacher's demonstration or enactment of experience so that students have an opportunity to "try it on" for themselves. I think students can easily transfer knowledge of any given experience through modeling. For an example, during a field trip to a museum, Tracie Costantino describes how a teacher models for the class: "I see a cliff with rocks and then I see the sun coming up. Do you see the part with red on

it...I like to stand in the middle and let the painting just go all around me. It makes me feel warm and it makes me feel peaceful" (Costantino, 2007, p. 11). Costantino describes this as a "somatic experience". The teacher is modeling for the children how to use visual evidence to feel this painting with their senses. She further explains that the teacher is trying to convey how to walk through a museum as a series of felt experiences.

If this experience was based on a regular education student, then how can I apply this to a student who has special needs? I think the same basic principle of visual thinking still applies; it just may need to be modified for an oppressed learner. It may be harder to know what a special education student perceives. This does not mean perception isn't happening; just that it may be difficult to assess. I think this is when it becomes critical to examine a student's work closely to find all possible internal meanings.

Also, if we can model to special education students, then we might be able to dive deeper into the realms of a confined reality that some are burdened by. Again, I find that the lack of verbal expression can hinder how a student shows what is learned. Johnson (2008) tells us, "Young children convey visual messages through painting and drawing, modeling with clay, creating collages, and constructing with found materials...Just as children learn to read and write by constructing and decoding words, they learn to create and decode visual symbols and ideas: they develop visual literacy" (p.74). Through modeling we can help these restricted pupils be heard through simple explorations of doing what they see others do.

During the museum field trip described by Costantino (2007), students were asked to visually express their interpretations of the artworks in their sketchbooks. After returning to school, the students were given a reflective prompt and then wrote on their experiences. The drawings that the students created were "visual representations of how students perceived certain paintings...they

provide insight into students' visual meaning of making of works of art" (p.22). She then describes the drawings as "manifestations of visual thinking"; I believe this is an important theory to research more intensely. Eisner (2002) explores this idea as well, "the teacher can use the child's work not only to display something that is made by the child...but to reveal significant forms of cognitive development" (p.175). If this is an effective answer for understanding how a student learns non-linguistically, then we must continue its relevance in the context of special need populations.

Equipping Students and Teachers

Lastly, art educators need to be prepared to teach special need students the proper tools and available strategies that have been proven useful in order for our alternative learners to improve in classroom environments. "Art teachers can be trained to know how to expand these students' visual repertoire in terms of subject matter, art materials, and art media during art making using behavior modification techniques" (Furniss, 2009, p. 23). Especially in a time when inclusion is so prevalent, we need to address certain ways to incorporate our philosophies across the student body, not a select few who are exemplars. In my opinion, we need assessment for teachers as well as students to ensure qualities of standards are being met. This can be a network of other teachers, administrators, board members, parents, and leaders of a community. This system of balances would help impose the kind of rigor needed to enhance programs for special need students that actually work and facilitate much needed progress.

Eisner (2002) writes, "Each student's individual journey becomes the object of attention" and "students proceed at their own pace...as a result, meaningful comparisons among students will be difficult" (p.229). He goes on to describe that these students may not have common objectives. I think this is a great example of how teacher assessment is crucial in teaching to all levels of students in the same class at the same time.

Useful strategies are another option in giving teachers a foundation upon which they can build successful frameworks of value. Strategies may range from coping techniques to redirection tactics that are proven effective with special needs children. When a teacher is in the middle of a lesson, such strategies need to already be encoded into the memory for easy access. So if a teacher is given prior training then problems could be handled more appropriately and efficiently. Teachers that instruct classes of today need to be prepared on many levels because the types of students are so varied in contemporary schools. There are different cognitive abilities and different social issues that are constantly changing from class to class. If teachers are equipped with solutions to real settings, educators are capable of managing their classrooms with minimal interruptions. This is a key role in creating a thriving learning atmosphere.

My personal philosophy is beginning to fall into the principles of art therapy (McNiff, 1998). I use the term beginning because there is much to discover in this area that I wish to research. I am interested in how art can be a solution of explanation to those in need. I think of this as a form of art therapy that allows students to work through situations as one would in a therapy session. Another framework I would like to explore deeper is Arnheim's theory of visual thinking (1969). I find myself needing to expand the notion of visual learning, which seems to be a core principle lost in public education with all the standardized testing emphasis. I am finding that once a student has verbal skills and calculating abilities, the idea of visual thinking is discouraged. But in fact, I believe this is the solution for special needs children.

My own personal frameworks for research begins with Costantino's (2007) approach that applies Eisner's (2002) and Efland's (2002) theory of art and cognitive thinking with Arnheim (1969). It also blends the work of Mason and Steedly (2006) who incorporate Bloom's Taxonomy of higher order of thinking (1956) with art therapy (Riddoch and Waugh, 2003).

My research review focuses on a transformative paradigm. I am interested in research that tries to change ways of learning or puts forth a new way to structure learning within a social environment. Costantino's (2007) article is constructivist and deals with situations in a societal setting. Case studies were the main methods used to explore the research, which I felt was the most effective method because observation was so important in tracking the results. Other methods used were rubrics and conference calls; I liked Venable's (2005) use of assessments to measure the benefits of the program on incarcerated juveniles which lead to more positive outcomes.

As I ponder the significance to art education, I find that all of my objectives are pertinent to the field of art and art education. I think the way a student can *visually* learn is as important as the student being able to verbally articulate what he has learned. If preservice teachers can learn how to better prepare themselves to teach a mainstreamed class, then skills can include "finding ways to effectively integrate differently abled students into art classrooms" (Bresler, 2007, p.1061). The area of art education is constantly morphing and progressing with each new theory being developed, so it only makes sense to include all aspects of art and art therapy to solidify this change. A feasible way to bring art integration to a curriculum is to use art as a therapy or part of the solution.

I found that these articles exhibited insight and clarity in the description of goals that supported their topic of research. I would like to have seen more evidence in the opinion paper of Rabkin and Redmond (2006), but I agree with the overall plea for more funding. I have gained a wealth of information through these articles that will help form foundations for my teaching philosophy that seems to be ever-developing. In the following chapter I will discuss my field observations and share some adaptive technology that can be implemented into art classrooms for use with disabled students.

Chapter Three

PROJECT DESCRIPTION

Setting

Most of the schools in the district that I did my field observations in are made up of low-income families. The particular school I observed at was not currently meeting Adequate Yearly Progress (AYP) and was in danger of becoming an "in-need" school based on No Child Left Behind standardized test score requirements. It was an elementary school P-5 and the student body consisted of 40% Hispanic-Americans, 40% African-Americans, 12% Caucasian-Americans, and 8% others. At first, I didn't realize the importance of this information until I understood the process of how a school can qualify for Title I funding. A school has to decide the best way to distribute these monies over a range of needed supplies. It frequently can be shocking that an item is denied because possibly only one child may need it, even if that product is undeniable to that particular child's educational success.

Another setting I have included with my field observations is a local ceramics studio that has an ongoing class for special need learners who work with clay. The class is typically one hour in length with usually 6-9 participants. Some may have an aide accompanying them. The class arrives together on a chartered bus and each student makes a conscious decision to attend certain classes or activities each day. Both settings include an array of disabilities that I will discuss further in my description of the observations.

Field Observations

The elementary classroom I observed was a contained special education class, which means these students are all specified as special need and are on IEP's or Individualized Education Plans. I

attended a one-time observation over a two hour period. There were five children and the disabilities included: Severe Developmental Delay or SDD, Learning Disability or LD, Down Syndrome, and two Autistic. When I arrived the teacher allowed me to sit towards the back of the room and no one wondered who I was or why I was there. I proceeded to record my observations onto paper, noting various strategies, patterns, adaptive techniques, and uses of different technology within this learning environment.

The teacher loves her Smart Board; it's so feasible to use with this group. She began a new lesson on the Smart Board that focused on learning site words through a matching game. It was both tactile and visual engagement since the students would see the images and then would proceed to touch the correct responses. One child could not press the images hard enough to operate the Smart Board so the teacher offered the child her own hand to guide his responses. This became an easy and effective way to keep the child engaged and focused on the lesson. The teacher also used the Smart Board for music lessons. By referring to the Smart Board, she could point out music transitions in songs and help the children focus visually to recognize repetition in the music. One example of this I witnessed was using the Alphabet song which showed the letters as the names were being repeated in harmony.

Around the room were the typical centers that might be in a regular education kindergarten class such as, housekeeping, dress-up, computers, library, and art table/easels. Carpet squares were used to identify where to gather around the Smart Board for group time and stories. On one of the bulletin boards there was a visual/pictorial schedule of daily activities for easy reference. By the door, shapes were attached to the floor in a single line and used for lining up students when leaving the room for lunch and other outings. The teacher would call out a student's name who was sitting

quietly and ask him or her to line up on a certain shape. These were simple, yet effective applications for special-need students.

One activity that I observed used visual cues and exercised gross and fine motor skills. It was the daily calendar game that began by the teacher gathering photos of all the students. Next, she would show one of the photos and ask each child if that person was there that day or at home. She would call on one child to then get up from their carpet square and place the photo in the graphic chart of present or at home.

Another lesson she engaged the children in quite easily was a sequence game. It was a pictorial game of planting a flower. The teacher asked one student to come up to the Smart Board and describe the first of three steps in planting a flower correctly. She asked, "What do you do first, plant the seeds, water the dirt, or watch the flower grow?" The student would then pick the first step in the sequence and return to their square. Next, the teacher would ask another child to come up for step two and so on until all the steps were correctly guessed. This could be used in an art room effectively by showing all learners how to begin projects with a visual sequence prompt.

I also taught at a local ceramics studio instructing a clay class that was designed for disabled students. This class is a drop-in course over a period of twelve weeks that is on a repeated cycle every fall and spring. I was able to observe many sessions over a two year period. Some of the conditions present were cerebral palsy, Down syndrome, deaf, blind, intellectual disability, and autism.

A typical class begins with the instructor greeting everyone and explaining the project of the day. Usually there is a theme or occasion that motivates the project, such as pasta platters or Mother's Day photo frames. Everyone is given clay and visually shown how to manipulate it. Some students need assistance but most try to model it themselves. Occasionally, a student does not want

to touch the clay or get "dirty", so a simple sensory tactic is implemented by putting the clay inside a plastic re-sealable bag. This enables the clay to still be modified without residue getting on the student's hands. One student in particular, who suffers from an intellectual disability, told me she did not want to feel the "wet stuff" and needed to wash her hands. I helped her clean up and then offered this solution and although it took most of the hour, she began to sculpt the clay while it was inside the plastic bag. Even though her piece was not specific to the theme of the lesson, she still completed a piece that she went on to paint with a brush and she felt satisfied with the outcome.

If a student is in a wheel chair then a board that has been constructed to fit around the student is used so that the child does not have to deal with restricted movements or reaching too far. For example, a student who had cerebral palsy and no use of the right side of her body was having difficulty reaching the clay on the table to pound flat. I pulled back her wheelchair and secured the board we constructed onto her chair arms and she was then able to reach the clay using her left hand and did not have to stretch.

Occasionally, a lesson may involve carving or writing into the clay. A project I recall that used this technique was Native American masks and was close to Thanksgiving time. After students formed their masks into discs draped over newspaper mounds, they were instructed to carve designs and symbols into the clay. A worksheet was passed out with visual examples for reference. Many of the students were able to carve by themselves without assistance. One boy in particular asked me to help him. He had Down syndrome and was incredibly sweet. As I guided his hand holding the carving tool with my own hand, he would lay his head on my shoulder. I would describe the symbols I chose and ask him if he wanted it to be carved on his piece and he would say "Please." As relevant as a teacher can make a lesson for a student, it becomes about the human experience in the process of art making too.

By the end of the hour most of the pieces were finished and then painted with bright slips which everyone loves to do themselves. I encourage the students to try different colors and painting strokes to decorate their masterpieces. The work is a piece of expression, once they have invested time and emotional experience into a work of art it becomes an extension of their reality, a part of their world.

As the weeks rolled by and finished pieces came out of the kiln, I loved to see the expression on the faces of these students. Some were delighted with their work, some were so proud and couldn't wait to give it to a loved one. Some did not show any preference towards the artwork and some would joke about the way it looked. The deaf student I spoke of in my introduction would always pick up her piece and carefully look it over. If she liked the results, she would give me a high-five. If she was indifferent, she would just put it down on the table and wrap it back up in paper.

These students changed the way I viewed education and the world around me. I saw struggles and triumphs from this group of disabled learners and all I could think of was how to make learning and creating easier for them. I wanted to do this by implementing adaptive tools and strategies to facilitate their classroom environments. I knew that these possibilities were available and through my observations and my own teaching, I learned how to apply them.

Emerging Themes and Analysis

Throughout my field observations I have found a reoccurring theme of *assistive technology*. Assistive technology (AT) is a generic term that includes assistive, adaptive, and rehabilitative devices for people with disabilities and includes the process used in selecting, locating, and using those (2004). The Technology-Related Assistance for Individuals with Disabilities Act of 1988 (US

Public Law 100-407) states that it is "technology designed to be utilized in an assistive technology device or assistive technology service."

It can range from very low-tech to the latest electronic trends available. I am convinced that assistive technology is crucial in the world of art and special education. It can be a true resource of opportunity for some learners who need additional tools to help them express, create, learn, think, communicate and problem-solve. As I analyze what I have experienced within these learning environments I am continually reminded of the drive that exists to further help those in need in our society. If we keep striving for better circumstances to surround our young learners in, then we are only cultivating a better future for our communities as a whole. The following assistive technologies I am going to discuss allow for further student involvement especially within an art classroom.

The first tool that can be used in an art room with special-needs students are adaptive scissors (see Appendix B, fig.4&5). These are useful for students with low-functioning fine motor skills. It may be difficult for disabled children to hold a grip on scissors and these models ensure spacious handles or spring-action blades.

Large and small grip brushes (see Appendix B, fig. 6&7) enable a more secure clutch and the larger ends are easier to control directional movement. If a child has cerebral palsy, a grip brush can be strapped in the hand and used more fluidly.

Another adaptable solution is desks and art tables/easels that are modified for wheelchair accessibility. A wheelchair can be rolled up to the edge of these curved shaped tables for closer access to materials and allows a student to reach a broader workspace area (see Appendix B, fig.8&9). Wheelchairs can also be used at adaptive pottery wheels to allow special-needs students the opportunity to experience making clay pots on an electric wheel (see Appendix B, fig.10).

More high-tech avenues of assistive technologies include: electronic writing and graphics tablets, electronic painting-adaptable wheelchairs, and highly innovative hardware that is controlled by eye movements for paralyzed users. Electronic tablets are available to use with remote capabilities within a classroom and can be projected onto a screen such as a Smart Board to be used in conjunction with other software programs (see Appendix B, fig.11&12).

A new concept for paralyzed artists is a breakthrough technology in eye controlled software that can be operated by the user's own optical movements. Typically, an eyepiece is secured onto a head-gear device and is remotely read by a computer. One product is called the Electronic Painting Wheelchair (see Appendix B, fig.13). Another has been used successfully by a graffiti artist who has rendered several images with this technique (see Appendix B, fig.14). Both of these are relatively new products and could be costly for a classroom application. A possible method could be grants or other funding available for assistive technology.

Chapter Four

CONCLUSION

Summary

As stated in Chapter One, I became interested in helping children with low-verbal skills have a voice through their artistic expressions and artworks. I feel there is a strong need for these students to have the chance to explore art as a solution to their frustrations of not being able to communicate to their families, friends, teachers and others who surround them in their daily lives. I especially believe a child deserves these resources in a public school setting. I also stated the objectives that I felt could facilitate this issue, such as arts integration, visual learning, and resource material for teachers. As I continued through my graduate career these goals became indicators for me of the precise changes I wanted to see in art education. I still see a need for these issues to be addressed and I want to continue advocating this subject.

As I entered more and more classrooms I began to see the reason why it is difficult for teachers to attend to special populations simultaneously. In our current budget year, paraprofessionals and aids are being drastically cut and class sizes are being increased. So this means teachers are taking on more responsibility and accountability than in years past. I understand how important a working curriculum becomes and how well an educator's time needs to be allocated. I also have found that some educators do not prefer inclusion in their classrooms at all. I am left wondering if this is because of the lack of support and resources or if innovative change just takes time for all involved to consume. I am confident that if we prepare our teachers with coping strategies and useful techniques then all learners can benefit from inclusion as a natural setting. As for art, I have witnessed several art teachers who encourage inclusion and I believe this is the appropriate target for a visual learning process.

Recommendations

This project brings to light some aspects of our educational system that could use some fine tuning to better include different levels of learners and communicating what they may be learning. I have designed an NAEA advisory that outlines helpful information for art teachers to use in their own classrooms. It also includes adaptive tools and assistive technologies for special learners as well as website sources for quick access. I listed the Assistive Technologies (AT) by categories of special education disabilities to give teachers clarity and easy reference to specific conditions. I also defined and gave examples of each domain in special education for educators who are unfamiliar with terms related to special-needs children.

Peer involvement is another area I described in this advisory as important to AT. Students who understand and help each other are more likely to create warm and encouraging learning environments that benefit students with social hindrances. I want this tool to be available for educators who need further insight into interacting with all their students regardless of their ability level. One aspect of a successful learning environment is creating a bond between the student and his or her teacher. This relationship is strengthened when a child feels that a teacher cares about their well-being which can be achieved when communication is a priority.

Another recommendation I would like to offer is Adaptive Art Teaching. This is an area that is relatively new but could become groundbreaking. In Fulton County, Georgia I am learning about a program that is already being practiced at area high schools. Adaptive Art Teachers are visiting secondary schools and working with the regular education art teachers to develop a curriculum for special need populations. This adaptive teacher comes into the classroom when special education students are receiving art instruction and supplements the regular art teacher. This is a very innovative approach to inclusion and one I hope will spread out across Georgia.

From the beginning of this Applied Project until now I have found that the research and literature available on this area has begun to accelerate. I am overjoyed to know that other educators find this topic valuable and worth strengthening as well. For me, I will take what I have discovered through research into my classroom everyday and strive to be an educator that cares, listens and improves the lives of my students.

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APPENDIX A: WEB SOURCES

www.Blickarts.com Art Supplies and Adaptive Tools

www.eyewriter.org Eyewriter graphic hardware

www.wacom.org Electronic Tablets

www.wiimote.com Electronic Painting Wheelchair

APPENDIX: B

CHASE STREET BANNERS

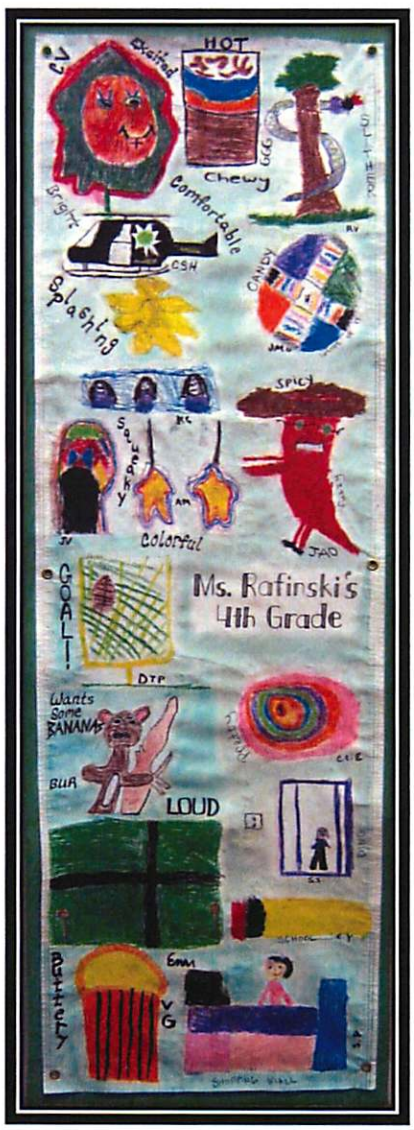

Fig.1 2008 Chase Street Banner

Fig.2 2008 Chase Street Banner

Fig.3 2008 Chase Street Banners

APPENDIX C:

ASSISTIVE TECHNOLOGY

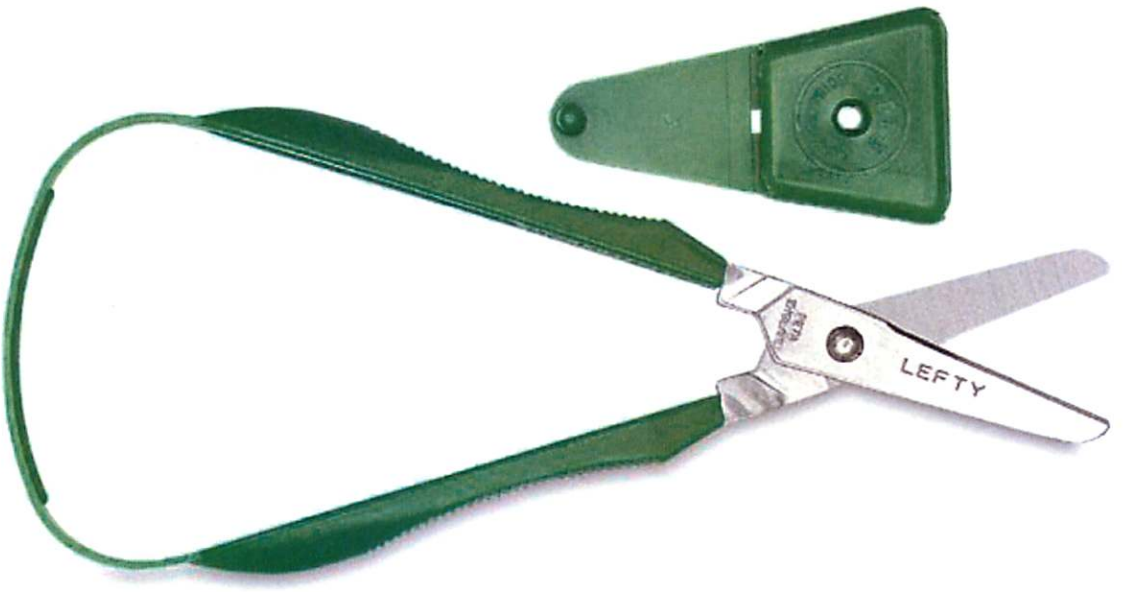

Fig.4 Adaptive Scissors (Blick)

Fig.5 Adaptive Scissors (Blick)

Fig.6 Large Grip Brushes (Blick)

Fig.7 Small Grip Brushes (Blick)

Fig.8 Wheelchair accessible desk (Blick)

Fig.9 Wheelchair Easel/Art table (Blick)

Fig.10 Wheelchair accessible potter's wheel (Brent)

Fig.11 Electronic Pen Tablet (Wacom)

Fig.12 Electronic Graphics Tablet (Wacom)

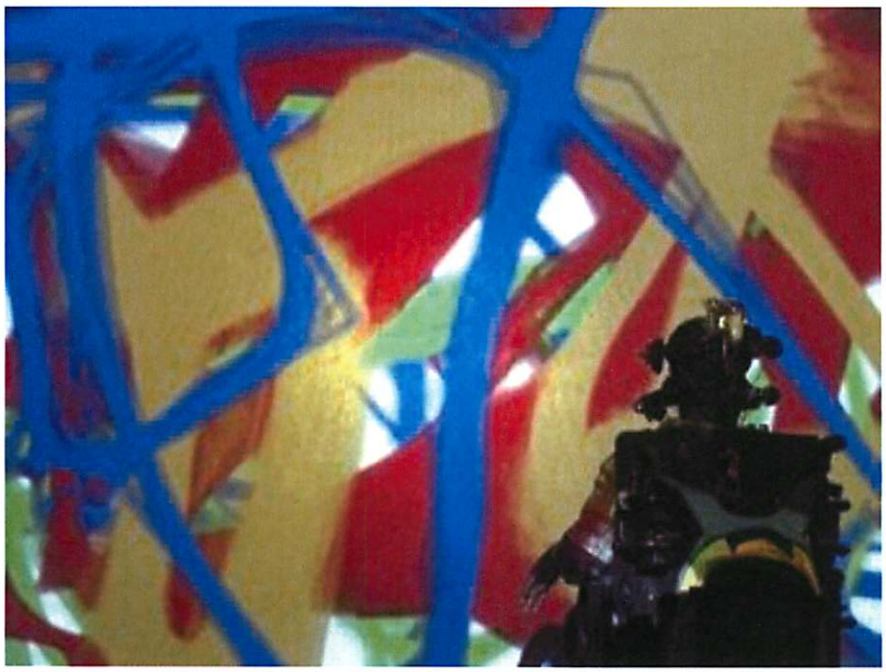

Fig.13 Electronic Painting Wheelchair (Wiimote)

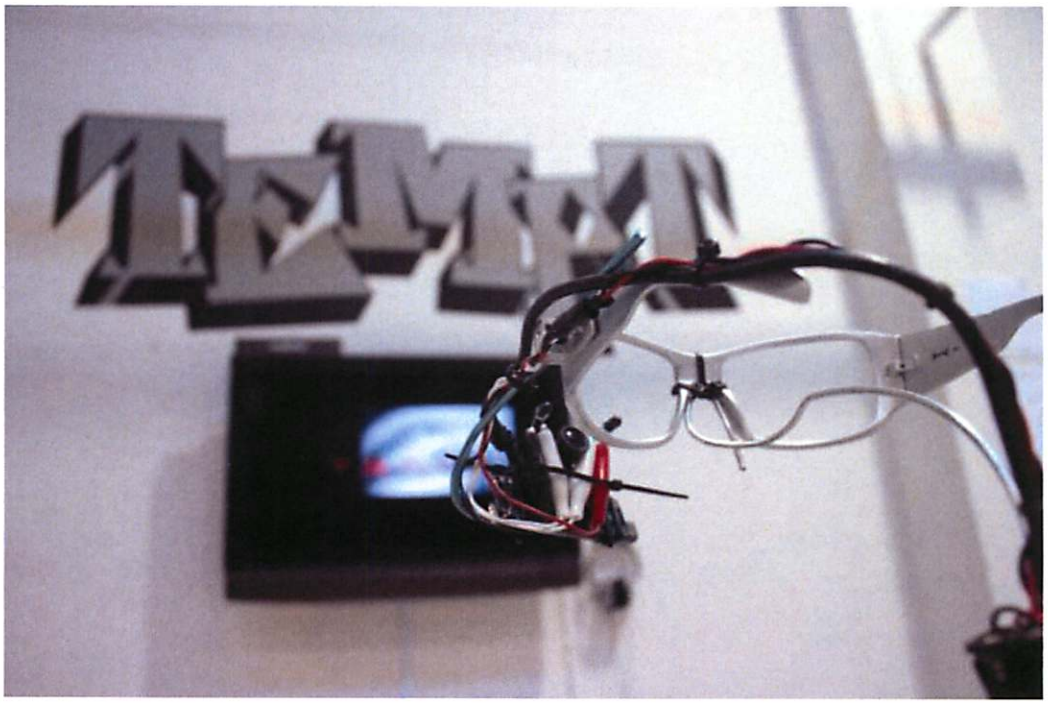

Fig.14 Eyewriter Graphics Hardware (www.eyewriter.org)

APPENDIX D:

NAEA ADVISORY

NAEA ADVISORY

Assistive Technology for Innovative Adaptive Art with Special Needs Students

By

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MAED University of Georgia, 2010

I am writing this advisory for Art Educators as an informative reference guide on assistive technology for all abilities of learners within a classroom environment. I have directed my efforts towards this goal during my collegiate career and have found an overwhelming response of teachers who support my direction to better prepare educators who advocate inclusion of special need students.

I have taught ceramics classes to special needs learners since 2006. I have seen disabled students struggle trying to use traditional tools and materials. I began to apply simple strategies to improve function of certain supplies and techniques. I am compiling these strategies as an accessible reference for teachers to improve the quality of instruction they provide to all levels of students.

Specifically, I am interested in facilitating classroom instruction for those who are disabled or non-verbal with the use of assistive technology in the art room for K-12 grades in public schools. Assistive Technology or AT is defined as assistive, adaptive, and rehabilitative devices for people with disabilities and includes the process used in selecting, locating, and using those (2004). The Technology-Related Assistance for Individuals with Disabilities Act of 1988 (US Public Law 100-407) states that it is "technology designed to be utilized in an assistive technology device or assistive technology service." Students who need specific AT items usually have it included in their Individualized Education Plan or IEP.

Options can range from low to high-tech and are intended to improve one or more of the five domains of special education: Adaptive Skills, Communication, Cognition, and Motor Skills (Fine and Gross), and Social/Emotional Skills (NCEE).

Available Assistive Technology for Students who struggle with:

Motor Skills:

Adaptive scissors- spacious handle allows a child to use more fingers to strengthen their grip and can be equipped with spring-action blades.

Large and small grip brushes and pencils- are very helpful for students who cannot master fine motor skills. The design is easier to hold and manipulate.

Velcro or rubber bands- can be used to secure various tools in the hand for students with poor fine motor skills.

Adaptive Skills (everyday activities):

Drop cloths/paper mats- place under vertical easels and wheelchairs when painting for quick clean-up.

Paint cups- with inverted openings and wide bottoms to prevent spills.

Wheelchair accessible desk and art easels- include cut-outs and angled edges to allow child easier reach to art supplies and work-spaces.

Communication and Cognition:

Graphic tablets- electronic pads used for drawing and painting techniques that can be controlled from remote locations within a classroom and viewed on a projector/Smart board.

Listening Stations- allow an area for students who need to hear repeated instructions or view how-to videos can be as simple as audio recordings or visual displays.

Social and Emotional Skills:

Peer involvement- encourages all students in the class to lend a helping hand to those in need, fostering caring relationships allow for deeper development.

Consider learning environment- students who have emotional disorders can be calmed by playing soothing music and dimming the lights.

Plastic bags- place clay or wet materials inside for tactile sensitive students. Sensory afflictions are common in students who have emotional disorders.

Children who are disabled or have learning disabilities need a variety of outlets and materials to show what they understand. For example, "clay becomes a language through which thoughts and ideas can be communicated, thus involving critical thinking skills"(Danko-McGhee and Slutsky, 2007,p.13). As an educator, these resources are crucial in helping learning environments thrive. Public school funding is an authentic problem for some AT programs. If we, as art educators, become advocates for our differently abled learners, then through art and community this stance will change.

Helpful Links:	**Keywords:**
www.abilityhub.com	Adaptive Supplies, Art Materials
www.blickarts.com	Adaptive Art Supplies, special-needs
www.zotartz.com	Adaptive Art Supplies
www.wacom.com	Electronic tablets

References-

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http://ies.ed.gov/ncee/, National Center for Education Evaluation and Regional Assistance.