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Arts Integration: The Missing Link

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Running head: ARTS INTEGRATION: THE MISSING LINK

Arts Integration: The Missing Link

Samuel Grayson Cochran

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Abstract

Many of our K-12 schools have experienced various challenges in order to narrow the achievement gap that addresses academic improvement for all students. Arts integration offers a foundation for learning that can improve student achievement. Teaching academic content through the arts provides students with opportunities to engage in 21st Century skills that promote critical thinking, collaboration, creativeness and communication. This project examines how arts integration can improve student learning outcomes and how teacher preparedness and on-going support contributes to it being an effective framework for educators. The researcher was able to conduct observations and interviews with teachers and write and design arts integrated lessons for 5th and 7th grade classrooms. The data collected provided evidence that arts integration can benefit student learning while promoting a positive school culture and a safe learning environment.

Introduction

The author's experiences in the classroom as a child were more engaging when art was integrated. He has always been a visual, hands-on learner as a child and he appreciated art as an older student. Learning should not simply be a one-way street. Learning should take place in multiple ways that relates to the intelligence of the student. The arts can be integrated to support kinesthetic, visual, musical, auditory, interpersonal, intrapersonal and mathematical learners (Gardner, 2011). It is a basis for creativity that can be molded and modified for the individual. There was an absence of artful experiences during his time as a middle school student. Teachers were more focused on test scores and not considering the advantages of what art could provide for their students. His high school experience with arts integration was better when it came to English and history.

When it came to his service learning hours for Liberal Studies 398s and Liberal Studies 277s, the author witnessed art being taught as a separate subject. Students were often reading silently or were actively listening while the teacher read stories out loud. During math instruction, students worked cooperatively and he witnessed students doing some coloring of worksheets. These learning activities did not address arts integration. Art allows for more opportunities for students to make choices when learning. Without art, students lose out on opportunities to be academically successful and critical thinking skills are diminished (Riley, 2012).

Problem/Issue

Many students are not reaching their academic potential in our schools (Riley, 2012). There are learning gaps that prevent students from being able to read and function

at their grade level. Art integration offers a creative approach to instruction that can help students improve and master grade level content. According to Riley (2012), founder of EducationCloset.com, “I see the Common Core State Standards (CCSS) as a great platform for the arts to really rise and share the importance in the educational fabric of a school.” She sees the importance of the arts and its natural connections to how students learn. The arts are the link to true integration with CCSS. According to Coleman (2011), the arts promote learning in the classroom and make direct connections to the arts and their importance. The arts can increase student knowledge and capacity while defining skills that promote the 21st Century Learning Skills of creativity, critical thinking, collaboration and communication (National Education Association, n.d). According to Robelen (2012), any curriculum promoting the arts has not yet caught up with classroom practice. Teachers often design their own lessons to integrate art in their classrooms.

Context

The author of this review of the literature has experienced a lack of art integration throughout grades K-12. During his student fieldwork in Monterey County, he did not witness much art being integrated during classroom visits. In order to seek out a new perspective on how art can be integrated in the classroom, he conducted research at the Monterey Bay Charter School where he observed classrooms and interviewed teachers about arts integration in the classroom. The data he collected was used to determine the effects of arts integration on student learning.

Stakeholders

The stakeholders to consider for arts integrations are students, teachers, parents and administrators whose focus and concern is to promote student learning. In order for all students to exit K-12 as college prepared or career ready, Coleman (2011) reveals that arts integration can promote this goal. The arts can improve attention and gains in cognition. According to Posner and Patoine (2008), students from all backgrounds can benefit academically by more exposure to the arts. The author's experience as a student helped him reflect on what was missing for students when it comes to learning in the classroom.

Solutions

Higher learning institutions have often undervalued art education for credential coursework for teachers. Teachers need to be well prepared to integrate art across content areas. According to Hudson and Hudson (2007), the advantages to having the background to support art integration can promote student engagement, communication, creativity, problem-solving skills, and student self-assessment.

Hudson and Hudson (2007) revealed that teachers might need additional college coursework to be better prepared to teach art in the classroom. A study by Hudson and Hudson (2007) further explained that when teachers are adequately prepared to teach art, they show a positive attitude toward art education in the classroom. Grauer (1998) found that liberal arts education is letting down their students by not providing the necessary skills and content knowledge to be visual arts teachers. Teachers' prior experience and success in school may lead us to a better understanding as to why some teachers are

confident in their ability to integrate art in their classrooms and others need more college coursework (Oreck, 2004). The recommendation by Grauer (1998) is that teacher education courses need to be connected between content areas and never be taught in isolation. Research continues to focus on the teaching beliefs of pre-service teachers prior to and at the end of their credentialing courses (Grauer, 1998).

Teachers and Professional Learning

Every Student Succeeds Act (ESSA, 2015) was signed into law on December 10, 2015 replacing No Child Left Behind (NCLB). ESSA gives school districts more freedom in providing educational services for students. Each school district writes a plan that explains how they will spend the educational dollars they receive. ESSA calls for a rounded education for each student that includes art and music. In addition, this educational bill includes a \$20 million dollar grant that provides funding for professional development for teachers with the arts and support to develop art based educational programs.

According to Oreck (2004), providing teachers with the awareness about the arts and how to integrate art in their classrooms continues to grow in popularity. There are many professional learning experiences that school districts can provide to their teachers but the focus needs to be on what teachers really think about the professional learning they receive. Much work needs to be done to create the links that connect art integration, professional learning and teacher practice. A study by Oreck (2004) was centered on three essential questions:

1. What are the teacher attitudes about art instruction? (Teaching with the Arts Survey)
2. What is the frequency of providing art lessons in the classroom? (Twas Survey)
3. What are the primary concerns related to the implementation of art across content areas? (Short answer)

From the study, Oreck (2004) found that more female teachers were likely to teach art compared to male teachers. Most teachers favored using visual arts over dance and drama when they integrated art in their lessons. Teachers found constraints that made it difficult for them to teach art. A lack of instructional time, physical space and few supplies were common responses that kept teachers from including art in their lessons. Some teachers said that they were not self-confident enough in their ability to teach art. Teachers wanted professional learning focusing on the arts as long as it came with ongoing support. They also agreed that the arts contribute to creative experiences and learning opportunities for their students. According to Oreck (2004), teachers need to trust their intuition and respond to the learning needs of their students.

An example of professional learning that has had a positive impact on teacher development was done at Glen Rock Public Schools, in Glen Rock, New Jersey. Glen Rock used a method of professional learning that helped teacher discover the value of teaching with the arts. This gave teachers the emotional connection to how the arts can enhance student learning. Glen Rock School District participated in a three-year study where they integrated art at six of their school sites. Teachers participated in professional learning where they had opportunities to create art while collaborating and reflecting on

the art process. Teachers explored many ways to incorporate opportunities for art learning to take place throughout the school day. This professional learning gave teachers the self-efficacy needed in order to feel confident about taking risks when incorporating art with existing curriculum (Amorino, 2008).

A successful approach to arts integration and professional learning was initiated by using The Partnerships in Arts Integration Research Project (PAIR) conducted by Chicago Arts Partnerships in Education (CAPE) in Chicago Public Schools. (DeMoss & Morris, 2002). The PAIR project did a three-year study that started with fourth grade teachers the first year, fourth and fifth grade teachers the second year, and fourth, fifth and sixth grade teachers during the third year. The project relied on intensive lesson planning where teachers incorporated assessment with each lesson. The data taken from assessment was used to validate the effectiveness of the lessons and the design of the assessment. The project yielded improved test scores from students (Scripp & Paradis, 2014).

Research Questions

The following questions guided the work for this capstone project:

- How can arts integration effect student learning?
- How does teacher preparation support arts integration?

Action Project Significance/Need

The action research done at Monterey Bay Charter School provided information on how students learn when they are taught through various methods of arts integration. The arts when integrated with English language arts, mathematics, science, and social

science can be an effective learning model (Burnaford et al., 2007). Conducting research at this school site assisted the author in answering his research questions.

Benefits of Action Project

The benefit of the action project allowed the author to gather anecdotal data on how students learn from arts integration both academically and socially. Collecting this data gave the author more knowledge and experience when developing his own lessons to see firsthand how arts integration affects student learning. After collecting data, the author reviewed any evidence of how arts integration affected student learning and collaborated with the classroom teacher verifying the results.

Context/Setting

Monterey Bay Charter School is a learning facility located in Pacific Grove, California. The outdoor structures resemble a smaller elementary school that has its classrooms spread out throughout the campus. The school services grades 1 through 8. Grades 1 through grade 4 each have two grade level teachers. Grades 5 through 8 are all single teacher grade levels. The inclusion model is used with special education students with resource assistance provided. The school is 60% white, however, the school campus reflects the diversity of the immediate Pacific Grove area. A level of color off the Boutet color wheel identifies each classroom with first grade having a pink room and for 8th grade having more of a violet colored room. The first grade room is interchangeable with long bench tables and seat cushions to sit on. As for grades 2 through 8, the classrooms consist of desks similar to what is seen in other public schools.

Monterey Bay Charter School does not integrate technology with instruction to any great degree. The author did observe that students occasionally use technology for research projects, play Jeopardy for a lesson overview projected on a whiteboard, and some special education students are using assistive technology with the use of an iPad. Music, dance, theater and visual arts provide experiential opportunities for each student.

Researcher

The motivation that was used to pursue this action research was taken from the experiences the author had when art was incorporated in his learning experiences. Incorporating art in lessons offers students creative learning experiences. The author has witnessed students at various cognitive abilities that struggle academically due to the way they are taught. He gained information that helped him understand how students at various ability levels can learn effectively. In the opinion of the author, art is sometimes overlooked by teachers and considered as a subject that only artists can teach. Although the author is a white male from a middle class background, he has had his challenges when academics are taught with limited options for the learner. He has a learning disability that makes comprehension difficult at times. The arts have contributed to his academic success in school.

Participants

The participants included in this study included a 5th grade and a 7th grade teacher, as well as the 48 students. No students or families participated in any interviews by the author. Appointments were made with each participating teacher in order to conduct interviews and to observe classrooms.

Method

The methods and procedures used for this project included classroom observations and teacher interviews. After collecting this information, the author designed two arts integrated lessons. Student work was collected as evidence to show how arts integration can be an effective learning model when lessons are carefully designed and executed.

Observations

The mathematics instruction, observed at Monterey Bay Charter School, looks similar to other public schools in the area where students use textbooks and worksheets. However, the students can work cooperatively on their mathematics lessons and use more than one way to write out their solutions to various problems, such as white boards and math journals. The author observed the use of textbooks for mathematics but for other subjects teachers wrote their own curriculum. Their lesson books consisted of what students are learning in all subjects. In English Language Arts, a lesson on



Figure 1. Student Work. This figure illustrates the integration of art and science.

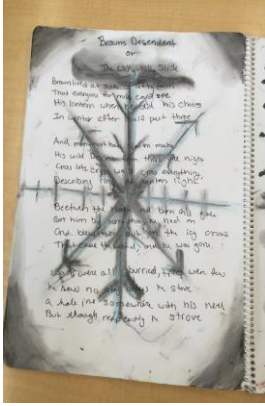


Figure 2. Student Work.

This figure illustrates arts integration in writing.

Each grade has a specific project that they work on throughout the school year that is arts integrated. Fifth-grade students create their own puppets using specific stitching and needle techniques. Foam blocks are used to construct the heads of their puppets including facial features, hair, and optional hats. The heads are attached to the body by using a short stick. The cloaks are stitched and attached to the head. Hands that are made of pipe cleaners. Each puppet will be the subject of a one-man short play written by each student based on his or her school year.

a novel is planned. In social science, lessons about plant anatomy that use unique styles of art are included. All fifth graders have notebooks that include unique handwork consisting of different artistic designs using colored pencils. In figure 1, this student work illustrates the anatomy of a plant learned during science instruction. Figure 2 illustrates the integration of art and writing. The student uses visual imagery to expand and personalize the writing process.



Figure 3. Doll Project. This figure illustrates a puppet used for year-end writing project.

In figure 3, each seventh grader created their own doll that is a reflection of themselves representing the next steps in their lives as they leave the years of childhood and enter into adolescence.

Each doll contains a heart made of lavender that symbolizes their youth and the body of the doll is stuffed with cotton. Heads are stitched and bodies are molded to be proportional to a child's body. Clothes and shoes are made from the students' own hands and hair is added to each doll. After the doll is completed, each student will complete a creative writing assignment that reflects on how the doll's image represents the student

and how this project has impacted him or her individually.

Teacher Interviews

Several interview questions (Appendix E) were asked to the 5th and 7th grade teachers at Monterey Bay Charter School. Monika Parsons has been a 5th grade teacher at Monterey Bay Charter School for three years. She feels the arts address different learning styles and engages students while learning. Ms. Parsons incorporates opportunities for learning through the multiple intelligences. She likes to use music and singing, clay for modeling, and visuals to compliment her lessons. She likes the Waldorf Model of Arts Integration since there is more freedom to be creative in the design of her lessons. She encourages students to draw and sketch to make an impression on the learner. She says that drawing is like an outline to writing. Her students can be more

expressive in their writing when using this strategy. Ms. Parsons would like to have more professional learning in the area of math and arts integration. She has learned to use a lot of drawings and games while teaching history to her 5th graders. She uses the Student Study Team (SST) intervention for students that are falling behind or if she detects a need for emotional support. She relies on the State Visual and Performing Arts Standards to support learning in her classroom.

Ms. Chandra Weaver, the seventh-grade teacher at Monterey Bay Charter School has been a teacher for eight years. Five of those years have been at Monterey Bay Charter School. She believes that students have a deeper understanding of subject matter when the arts are integrated throughout the school day. Student achievement has improved based on benchmark assessments given throughout the school year. She includes the multiple intelligences in her lesson plans in order to address the learning styles of each of her students. She likes to incorporate visuals and audio to enhance her lessons. Lessons designed around nutrition and anatomy lends themselves to arts integrations. Students like to draw two-dimensional representations of three-dimensional objects like fruits and vegetables. The anatomy of the human body can be used as a model to illustrate how various systems work together. Ms. Weaver sees a direct connection between drawing and writing. If students can demonstrate an understanding of a concept by drawing it, they can usually transfer what they draw into a written form. She explains that drawing can be a type of graphic organizer for writing. She values the professional learning and ongoing support that she has received with the Waldorf Model of Education at Rudolf Steiner College in Fair Oaks, California. She explained that when a student becomes a concern due to various reasons, the teacher would request a SST to work together to see

what can be done. The SST team usually consists of the classroom teacher, the principal, the school or district physiologist and the parent. Ms. Weaver added that no one lesson can meet the needs of all students but the arts meet many of those needs.

Risks/Protections

Only teachers were interviewed for this research. There was no need to obtain permission/consent forms for students to participate, as the questions and survey were only intended for teachers. No student names were included in this action research study. The identity of students was protected. No personal information about teacher identity was shared before, during or after the research was completed. Every consideration was made to insure safety of all individuals involved in this research. Consent by the director of Monterey Bay Charter School was signed and submitted with the Action Research Proposal on March 1, 2016. (See Appendix A)

Instruments/Data Collection Tools

The instruments used to conduct this action solution project included teacher interviews, student work, anecdotal notes, and arts integrated lessons.

Action Project Solution

According to Burnaford et al. (2008), the Arts Integration Framework implies that it can provide a pathway to engage students in learning. In order to witness how arts integration is done first hand, exploring which schools actually use arts integration was the first step when developing this action research. During his research, the author found that a majority of schools do not focus on the arts integration framework in Monterey County except for Monterey Bay Charter School in Pacific Grove, California. Monterey

Bay Charter School is a tuition free K-8 charter school that uses the Waldorf Education Model for educating their students. According to Barnes (1980), the Waldorf Education Model does not claim to be an art school, rather a school integrating the arts across content areas. Founded in 1919, by Rudolf Steiner, the Waldorf model of education is a pedagogical system of art that awakens what exists within the human being (Uhrmacher, 1995). According to Uhrmacher (1995), Waldorf education promotes a unique, rigorous learning experience where students not only learn about the arts, they experience them. Teachers at Waldorf Schools, worldwide, provide learning opportunities that motivate and empower their students (Uhrmacher, 1995).

Results

The results of this action solution research indicated that the Waldorf Model of Education provides the foundations needed for arts integration at Monterey Bay Charter School. During classroom observations, students were actively engaged in their learning and were given opportunities to be creative, collaborative, critical thinkers and problem solvers. The lessons designed for 5th and 7th grade classrooms provided evidence to the author that students had prior knowledge of the arts and that they were able to participate with minimal directions. The evidence collected from the teacher interviews provided answers to the research questions that were developed for this review of the literature.

(See Table 1)

Table 1 Results

Methods and Procedures	Results
Interviews	<p>“Students are very engaged in their learning because we are teaching the whole child. Behavior problems are nearly non-existent.” – Ms. Parsons</p> <p>“Students come to school each day eager to learn. Our school culture embraces the arts! We have the freedom to design lessons that are best suited for our students.” – Ms. Weaver</p> <p>“The professional learning and ongoing support that all teachers receive here helps us think creatively and collaborate together.” – Ms. Weaver and Ms. Parsons</p>
Observations	<p>Observations in classrooms indicated that students were engaged in their learning and that they worked cooperatively with one another. Year long projects followed a theme that integrated the arts. The teacher designs all lessons. The only exception was mathematics where a textbook was used.</p>
Arts Integrated Lessons	<p>Arts integrated lessons were aligned with the California State Standards and Visual and Performing Arts Standard and designed by the author. Students were engaged and completed the assignments. The classroom teachers commented that students enjoyed the lessons and were successful with the learning activities.</p>
Participants	<p>Two teachers and 48 students participated with this study that included teacher interviews, observations and arts integrated math and science lessons.</p>

Arts Integrated Lessons

This action project solution was designed for fifth and seventh graders with lessons (See Appendix B, C) that identify how arts integration can be integrated with mathematics and science. According to Burnaford et al. (2008), the Arts Integration Framework supports arts integration of academic learning in all content areas. The lessons developed by the author include learning standards for both content areas as well as the California Visual and Performing Arts Standards.

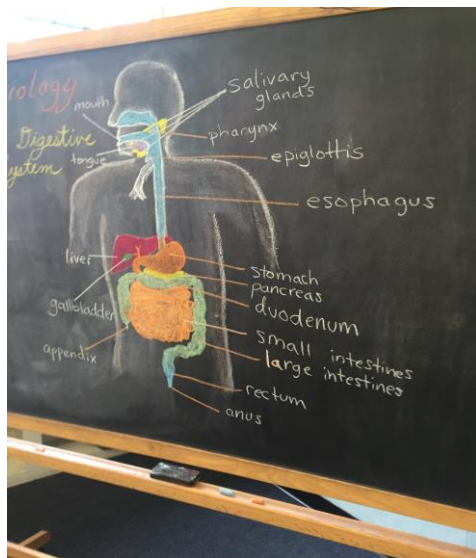


Figure 4. Teacher Visual Model.

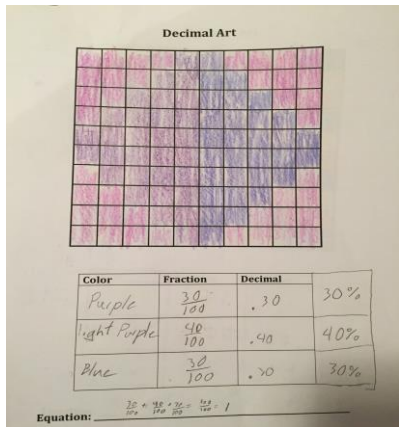
This figure illustrates the visual model used during instruction.

The majority of the students were involved and each student acted out his or her role. Props were used in creative ways; one student taped an apple to her stomach and another student used a book to describe the functions of the pancreas.

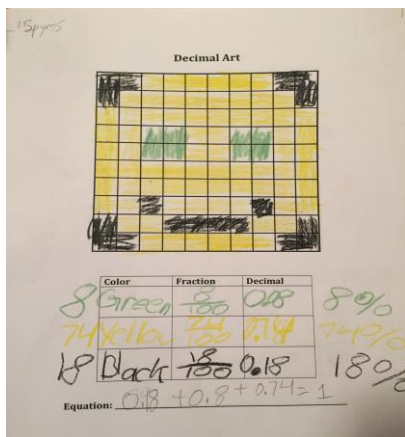
The seventh-grade class has been learning about the various systems of the human body. Each student participated in a skit where they perform and dramatized each organ of the human digestive system and its function. Before the reenactment began, the students gathered around the chalkboard illustration seen in figure 4 of the human digestive system and then reviewed the functions of each organ. Each student was allowed to choose the function and organ they would like to represent in the skit. The

Students also found creative ways to represent how fecal matter travelled through the intestines, both small and large, and then the final journey to reach the anus. The students were actively engaged throughout the lesson and their willingness to participate was acknowledged by their teacher.

The fifth graders had an arts integrated mathematical lesson focusing on fractions,



decimals and percentages. Each student was given a one hundred square grid (Appendix D) and could use any dry coloring media representing any three-color choices. After they completed coloring all the squares, each student determined the number of squares in the grid for each of the colors and determined the fraction, decimal, and percentage parts of each.



The fifth graders were not aware of percentages, however, with a short overview and a mini-lesson, they had a better understanding of percentages and the relationship between fractions and decimals.

Figure 5. Student Work. This figure illustrates two examples of integration of art and mathematics.

Many of the students made abstract or realistic designs within the one hundred square grid. In figure 5, students included faces, toucans, and even a Pokémon in their finished design.

After completing their designs, each student shared their models of fractions, decimals, and percentages and explained their understanding and asked questions. For the most part, each student was able to finish the assignment within the 45-minute time that was allotted.

Based on the results of the Action Project Solution, the author has identified four specific actions that may support arts integration in schools. The first action would be to gather data on the classroom culture. Observing what teachers and students are doing and saying throughout the day would contribute to the structures in place that promote the teaching of the arts. The second action would be to get a broader consensus from all stakeholders to understand the various perspectives they hold in regards to arts integration. The third action would involve a deeper look into how lessons are developed and what criteria is needed in order for these lessons to be standards based and grade level appropriate. The fourth action would involve knowing more about the professional learning opportunities that are available to schools and if there is ongoing support for teachers.

Conclusion

Arts integration could be the missing link as to why so many students are not making sufficient academic progress in our schools. Researching this topic gave the author a new perspective on some of the barriers that explain why arts integration is not widely embraced by school districts. Professional learning opportunities and on-going coaching support can provide the foundation needed for the implementation of arts integration. The Action Project Solution done at Monterey Bay Charter School allowed the author to see arts integration in real time. If this capstone were extended, the author

would like to give a survey to teachers, students and parents in order to get multiple perspectives addressing the pros and cons of arts integration. The author of this research will include the knowledge he has gained from this project as he reflects on his own teaching practice.

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- Figure 2 [Plant Anatomy]. (2016, April 21). Retrieved April 29, 2016. Monterey Bay Charter School
- Figure 3 [Doll Project]. (2016, April 21). Retrieved April 29, 2016. Monterey Bay Charter School
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Figure 5 [Decimal Art Samples]. (2016, April 25). Retrieved April 29, 2016.

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Appendix A

Action Research Proposal

LS400

LS 400 ACTION RESEARCH PROPOSAL

COMMUNITY PARTNER AGREEMENT - SIGNATURES AND ASSURANCES

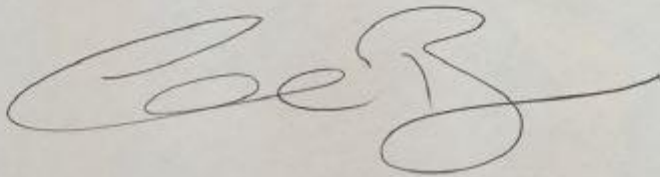
I, the student researcher, certify that I have discussed with my community partner(s) the focus of my capstone project, the participants I would like to invite to be a part of my research, an overview of the research procedures I would like to implement for this project, and the method of obtaining consent (if necessary) I will use for all participants. I have also discussed the action project I would like to develop and implement in collaboration with my community partner(s). I certify that I will follow the procedures and methods in the action research proposal, and will inform the course instructors and community partner(s) of any anticipated changes to this action research proposal and action project should they be necessary.

Note: An electronic signature via email can be used for the community partner agreement.

Samuel Cochran	3/1/16	Samuel Cochran	209-609-7797	sa.cochran@umb.edu
Capstone Student	Date	Print Name	Phone Number	Email

Mentoring Bay Charter School	3/1/16	Cassandra Bridge	831-655-4635	cassandra@mbcharter-school.org
Community Partner	Date	Print Name	Phone Number	Email
Community Organization:				

Community Partner	Date	Print Name	Phone Number	Email
Community Organization:				



Appendix B

Lesson Title: The Human Digestive System

Standards: 5.a. Students know plants and animals have levels of organization for structure and function, including cells, tissues, organs, organ systems, and the whole organism.

CDE VAPA Theatre 5.1 Use theatrical skills to communicate concepts or ideas from other curriculum areas, such as creating a musical based on a piece of literature.

CDE VAPA Theatre 5.2 Demonstrate projection, vocal variety, diction, gesture, and confidence in an oral presentation.

<p>Learning Objective(s): Students will be able to understand the sequence of food digestion through the human digestive system</p> <p>Language Objective: Students will be able to explain the digestive system and the function of each organ.</p>	<p>Materials: note cards with the term on one side and the definition on the other.</p>
<p>Focus: Grade 7</p>	<p>Framework: Activate prior knowledge to engage students in the activity. Model I do - Teacher will model the activity for students while students watch We do - Teacher and some students will do the activity together. You do- Students will perform the skit for the class, rotating as many students into the activity so that all students can participate Check for Understanding - Students can work with partners/group to practice their term and what order they need to be in. Teacher will observe and give feedback to students. Closure: Play song “ Where does it go?” and ask for any comments or questions from students.</p>
<p>Formative Assessment - How will you and your students know if they have met the objectives of the lesson? Students will act out the sequence of food digestion and present and verbalize each process.</p>	<p>Context: Students have been studying the functions of all body systems. The objective of this lesson is to cover specific academic vocabulary that is necessary to when identifying the different organs of the digestive system as well as the function of each organ. Lesson should be between 30-45 minutes, including time to clean up.</p>

Summary: Teacher will discuss how the process of food digestion begins and ends. Students will act out each step of the process while learning the term and definition of each organ in the human digestive system.	
Teacher actions	Student actions
Model I do - Teacher will model the activity We do - Teacher and some students will do the activity together.	Students will watch teacher Students will practice activity with the teacher. You do - Students will perform the skit for the class, rotating as many students into the activity so that all students can participate.

Appendix C

Lesson Title: Decimal Art

Standards: CCSS.MATH.CONTENT.5.NBT.A.3

Read, write and compare decimals to thousandths.

CCSS.MATH.CONTENT.5.NBT.A.3.A

Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

CCSS.MATH.CONTENT.5.NBT.A.3.B

Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

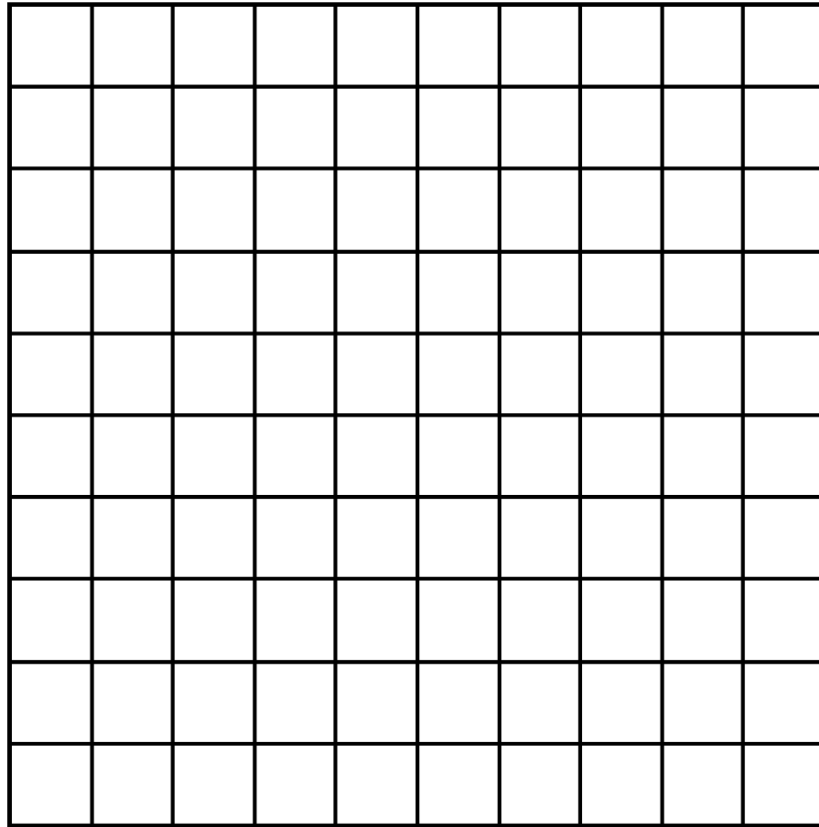
Visual Literacy 5.2 Identify and design icons, logos, and other graphic devices as symbols for ideas and information.

<p>Learning Objective(s): Students will be able to construct a visual model of a 100s Chart and find the fractional, decimal and percentile part of a whole.</p> <p>Language Objective: Students will be able to explain the relationship between fractions, decimals and percentages.</p>	<p>Materials: 100s Chart and colored pencils</p>
<p>Focus: Grade 5</p>	<p>Framework: Activate Prior Knowledge - Talk about what comes in 100s</p>
<p>Formative Assessment - How will you and your students know if they have met the objectives of the lesson? Students will work with partners to create a visual model of a whole. Teacher will check in</p>	<p>Context: Students have been studying fractions and now they will use a visual model to determine parts of a whole in fraction, decimal and percentage form.</p>

with students to see if they have questions and or need additional help.	
<p>Summary: Teacher will model how to color in the hundreds chart and identify fraction, decimal and percentage parts of a whole. Primary or secondary colors will be used for 100s chart.</p>	
Teacher actions	Student actions
<p>I DO</p> <p>Model/Demonstration - Explicit explanations, think alouds, visual or worked models, small steps working toward mastery, etc.</p> <p>WE DO - Students and Teacher will discuss the activity through its process</p>	<p>Students will listen to short lecture on lesson</p> <p>Students will take part to complete assignment</p> <p>You do – Students will take part of finishing up activity as I go around the class assisting when needed for help.</p>

Appendix D

Decimal Art



Color	Fraction	Decimal

Equation:

Appendix E

Interview questions:

1. How many years have you been at teacher?
2. How many years have you taught for Monterey Bay Charter School?
3. How do the arts increase the academic performance of your students?
4. How do you incorporate the multiple intelligences (visual, auditory, kinesthetic, etc.) with your students in your arts integrated lessons?
5. How does the grade level curriculum you currently use in your classroom meet the various learning styles of your students?
6. How does drawing or sketching prior to writing enhance learning?
7. What kinds of professional learning would you value most as a teacher at Monterey Bay Charter School?
8. How do you address the academic needs of your students who are not making adequate progress?
9. How do the Visual and Performing Arts Standards contribute to the differentiation of your lessons in order to meet the learning needs of all students including students with Disabilities, English learners, Low Socioeconomic, etc.?
10. What additional education have you had in the arts?