IMPACT OF INDUCTIVE AND DEDUCTIVE TEACHING STRATEGIES IN ART CLASSES

By

Stephanie R. Burns

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Director of Thesis: Dr. Cynthia Bickley-Green

Major Department: School of Art and Design

Abstract:

The purpose of this small teacher action research study was to determine if incorporating an inductive teaching strategy (concept attainment) into the teaching of art concepts affects student performance on depth of understanding [as demonstrated by learner questionnaire/survey], learner performance on quizzes, and learner application to art products. The results of the study revealed information that may be beneficial to teachers and administrators when choosing methods of instruction for specific tasks. There was no noticeable difference in student products depending on which method of instruction (concept attainment or traditional method) was used. Incorporating inductive teaching methods (concept attainment) did not result in students learning content at a higher level. Incorporating inductive teaching methods (concept attainment) did not result in making learning more meaningful or enjoyable overall for students. However, the specific items on the learner art survey/questionnaire did reveal statistically significant results favoring the concept attainment strategy. The researcher accepted the null hypothesis: There were no differences in the products that students produced based on the two methods of instruction, inductive (concept attainment) and deductive (traditional method).

A second objective of this study was to assist the art teacher in understanding the impact of the inductive (concept attainment) and deductive teaching methods in order to make the best

decisions when planning lessons. The results of this study assist in informing future decisions regarding choice of instructional strategies applied in art courses.

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Stephanie R. Burns

APPROVED BY:

DIRECTOR OF THESIS: _____

Cynthia Bickley-Green, Ph.D.

COMMITTEE MEMBER: _____

Daniel J. Boudah, Ph.D.

COMMITTEE MEMBER: _____

Borim Song, Ed.D.

COMMITTEE MEMBER: _____

Robert D. Quinn, Ph.D.

DIRECTOR OF THE SCHOOL

OF ART AND DESIGN: _____

Kate Bukoski, Ph.D.

DEAN OF THE

GRADUATE SCHOOL:

_____

Paul J. Gemperline, Ph.D.

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CHAPTER 1: INTRODUCTION

Today's teachers are constantly under the accountability microscope to demonstrate they are effectively teaching students, based on the performance or achievement of their students. It is imperative that teachers in 21st century classrooms become teacher scholars by applying executive control, which is an application of principles that requires a deep understanding of appropriate skill use, modification of the skill to fit the needs of learners, and determination of when student and teacher behaviors indicate effective instruction and learning has occurred. Teachers must ensure they utilize strategies that maximize student learning as well as provide meaningful lessons that promote student engagement and meet the needs of diverse learners. Only when a teacher is able to select the appropriate strategy, modify it according to the student needs, perform the strategy, and evaluate its strengths can we say executive control has been sufficiently accomplished.

The General Assembly of North Carolina, in keeping with setting higher standards for teacher education candidates, is requiring all Educator Preparation Programs to transition its candidates into passing a required nationally normed and valid pedagogy assessment to determine clinical practice performance. This required assessment, which has been adopted in a number of states, becomes effective in North Carolina in the fall of 2019 for programs in all content areas to meet approval standards to license teacher candidates (North Carolina Department of Public Instruction). This nationally normed assessment requires an understanding of teaching strategies, and demands that student teachers justify their selected learning tasks and connect their planning and teaching to research and theory (Stanford Center for Assessment, Learning & Equity). This assessment relates to this study through its emphasis on the selection

and use of effective strategies.

As Joyce and Calhoun (1998) indicated, teachers must become life-long learners and teach through inquiry. Joyce and Weil (1986) detailed a basic coaching model for building a repertoire of research-based teaching strategies that will allow teachers to make informed decisions regarding what strategies are most beneficial for a variety of teaching and learning variables. Among the plethora of strategies, they highlight is the Concept Attainment Model (CAM), a student-centered teaching strategy that promotes inductive thinking (specific to general). Concept Attainment may be used with learners of all ages and grade levels and with varying content. The strategy promotes long-term learning, an important consideration when taking into account the limited time teachers are afforded to facilitate mastery of an increasingly large body of information. When teachers apply the CAM in their teaching, "Students use inductive reasoning … to develop thinking and reasoning skills" (Bouleware & Crow, 2008, p. 491) and create lasting knowledge.

Visual Art I is a course designed for students who need to complete their fine arts graduation requirement. In the course, students learn the basic elements and principles of design in 2-D and 3-D works of art, art history, and art critiques. The investigator teaches three sections of Visual Art I, thus the reason to choose two of the three sections for this study.

Statement of the Problem

The purpose of this study was to investigate the effect of the Concept Attainment Model (Inductive Teaching and Learning) and Traditional Method (Deductive Teaching and Learning) on the student learning of concepts and skills in Visual Art I classes. The purpose for the research was to determine if incorporating the inductive teaching strategy Concept Attainment into the teaching of art concepts affects student performance as demonstrated by learner survey/questionnaire responses, performance on quizzes, and application to art products. The

results from this research will be used to further research the inductive instructional strategy of concept attainment and its impact on student learning. This research could have an impact on curricular planning in determining educational strategies that are used to teach varying art concepts and skills.

Research questions:

A. Will incorporating the inductive teaching method of concept attainment make learning more meaningful or enjoyable for my students than deductive (traditional method)?
B. Will incorporating the inductive teaching method of concept attainment allow students to learn content at a higher level, based on the quiz (pretest and posttest) administered?
C. Will there be a difference in student products depending on which method of instruction is used (inductive concept attainment or deductive traditional method)?
D. What is the impact of inductive teaching method of concept attainment on concept learning in secondary art courses?

Review of the Literature

Background for Considering Teaching/Instructional Strategies

Teaching strategies for delivering the curriculum have been studied and questioned for more than a century in the United States. In what is known as the transitional period (1893-1918), questions arose surrounding curriculum, instructional delivery, the establishment of standards for teaching and learning, and the assessment of the standards to inform instruction (Kauchak & Eggens, 2017). In the 1960's the teaching of social studies and history changed in terms of teaching methods. As Stinespring and Steele (1993) indicate, "Emphasis was placed on students' employing a variety of skills such as drawing inferences and classifying data in pursuit of student-generated conclusions and interpretations" (p. 7). History became a "dynamic process producing results that could be examined and reinterpreted, rather than static statements" (p. 7). This change in the way history in general was taught influenced the strategies for teaching art history as well as art in a studio context.

The emphasis on teaching strategies remains relevant today. North Carolina's *House Bill 97* most recently addresses expectations for teacher education candidates (pre-service teachers) in terms of the selection and implementation of specific teaching and assessment strategies. Garrett (2007) identifies problems during initial teacher preparation and professional development with learning and transferring a strategy to the classroom. These problems include "failure to match learning goals with the appropriate teaching strategies, failure to learn or use all the components of a strategy, and failure to practice and receive feedback" (p. 7). Across the curriculum, teachers tend to most frequently apply deductive methods of teaching rather than inductive ones, and to rely on a limited repertoire of teaching strategies. Yet researchers (Guillaume, 2012; Joyce & Weil, 1986) have found that when teachers broaden their repertoire

and learn new research-based strategies student learning is maximized.

This review of the literature will address the definitions of inductive and deductive teaching strategies, the concept attainment model as a specific inductive strategy for teaching concepts, and the effect of using blended methods for teaching concepts.

Deductive Teaching Strategy

Deductive reason typically begins with the generality and moves to the specific, as Sriraman and Adrian (2004) indicate. One deductive model, the Advance Organizer, may be used to design presentations to build a scaffold of important concepts at the beginning of a lesson. An example in an art setting would be a docent using an Advance Organizer to structure a tour. Joyce, Weil and Calhoun (2015) refer to the model as "a powerful concept used by art historians. This organizer has many subordinate ideas that can be linked to the particular characteristics of the art objects being viewed" (p. 198). Advance organizers support the goal of learning subject matter by "improving presentational methods of teaching" (p. 199). Meaningful learning happens when teachers address three concerns: (1) how knowledge is organized (curriculum content), (2) how the mind works to process new information (learning), and (3) how teachers can apply these ideas about curriculum and learning when they present new material to students (instruction). Because schools require students to acquire lots of information, the advance organizer model works well in assisting teachers with their job of conveying knowledge to students.

The advance organizer model is designed to strengthen the cognitive structure of the students or the knowledge of a subject and to ensure the context is well organized, clear, and stable. "Cognitive structure is the foremost factor governing whether new material will be meaningful and how well it can be acquired and retained" (Joyce, Weil, & Calhoun, 2015, p.

200). Meaningful learning "depends more on the preparation of the learner and the organization of the materials than it does the method of presentation" (p. 200) and is maximized when the material is logically organized from general to specific. Advance Organizers provide temporary scaffolding to help students "be involved in relating material to their own cognitive structure" (p. 201). They encourage learners to actively "struggle with the material—looking at it from different angles, reconciling it with similar or perhaps contradictory information, and finally translating it into their own frame of reference and terminology (p. 201).

The implications of deductive strategies for curriculum include two principles, (1) progressive differentiation, guiding the organization of content so it is stable for the student's cognitive structure, presenting the most general ideas first, then following with gradual specific details, and (2) integrative reconciliation, intentionally relating new ideas to concepts that have been previously learned. The syntax or phases are: (1) Presentation of Advance Organizer--Clarify aims of the lesson, present the organizer by identifying defining attributes, give examples provide context, and prompt awareness of learner's relevant knowledge and experience; (2) Presentation of Learning Task or Materials—Present material, maintain attention, make organization explicit, and make logical order of learning material explicit; (3) Strengthening the Cognitive Organization—Use principles of integrative reconciliation, promote active reception learning, and elicit critical approach to subject matter, and clarify (Joyce, Weil & Calhoun, 2015). The advance organizer model may be used with students of all ages and with all content areas and promotes long-term learning.

The research of Wenno, Wattimena, & Maspaitela (2016) supports a more traditional method of instruction, referred to as Drill Skill, a strategy that has been reported as, "A very effective learning model in improving the mastery of science, creativity and learning skills" (p.

212). "The results of the comparison when teaching physics shows that student learning achievement with Drill Skill is better than the Concept Attainment Model" (p. 214). The research of Kumar and Mathur (2013) found that the effect of the Concept Attainment Model (CAM) of teaching was superior in terms of students' understanding of physics concepts compared to the traditional method. Their research also showed that students liked CAM significantly better compared to the Traditional Method. This demonstrates that there is no one model that is suitable for every circumstance, every content area, every lesson, or for every child.

Inductive Teaching Strategy

Induction may be defined broadly as "a rational process that involves the drawing of conclusions about a whole class of things based on premises and on a subset of these things (Sriraman & Adrian, 2012, p. 409). Joyce, Weil, and Calhoun (2015) indicate,

> Conceptual thinking is probably programmed into us during gestation. At birth, we immediately start to learn language . . . We study our environment and sort it out. We classify objects . . . as we try to gain control of our surrounding. (p. 35)

Aristotle acknowledged that humans could learn through disciplined inquiry, facilitated by the teacher who guides their learners to construct knowledge during the inquiry process. Teachers facilitate the scaffolding that Vygotsky referred to in his research and theory of the Zone of Proximal Development (ZPD). As humans we classify specific items in our world to make sense of it. Various strategies may follow the inductive process whereby students move from examining specific pieces of information to determine a general understanding in learning concepts. The specific Inductive-Thinking Model outlined by Joyce, Weil, & Calhoun (2015) includes several phases. The syntax or phases of the inductive model are: Identify the Domain, Collect and Enumerate Data, Examine Data, Form Concepts by Classifying, and Determine Relationships and Investigate Causal Hypotheses. It is important for teachers to practice the

inductive strategy and study how the kids think. Another strategy detailed by Joyce, Weil, and Calhoun (2015) that focuses on inductive thinking is the Picture Word Inductive Model (PWIM), a relatively new inductive model that is often applied in literacy lessons and incorporates an integrated language arts approach, with focus on the reading writing connection. The syntax or phases of the PWIM cycle include Studying the Photograph and Shaking Out the Words, Analyzing Word Attributes, Building Categories, and Developing Word Solving Strategies, Creating Sentences, Making Titles, and Classifying Sentences, and Composing—From Sentences to Paragraphs.

As pointed out by Joyce, Weil, and Calhoun (2015), "To look at a scene and see beyond the specific items to how they belong together . . . well, think about what that means to us" (p. 37). Learning to teach inductively is considered a very basic model of teaching that emphasizes organizing information as one compares and contrasts objects, events, and emotions. Joyce, Weil, and Calhoun (2015) indicate, "Learning to think inductively is a critical goal and students need to practice it, not just be led through it" (p. 41). The foremost goal of schools is to build students' competency as learners. In defense of applying inductive strategies, Sriraman and Adrian (2004) declare, "When students are confronted with a difficult problem, they inevitably ask the teacher for help. . . How can we expect students to think for themselves if we do the thinking for them?" (p. 408).

Kroflič's (2012) research advances support for a comprehensive inductive educational approach to art as a means of cultural enrichment for pre-school children. His research supports approaching identity and moral development through the inductive approach, emphasizing the view of the theoretical notion of aesthetic as ethics of postmodernity. Educational approaches include a pedagogy of making judgments that are contextualized, a pedagogy of listening, and a

relational pedagogy, often related to the Reggio Emilia Approach, and the development of moral and prosocial development. Kroflič's (2012) research explores the Aristotelian concept of aesthetic mimesis, which is perceived to be much more than an act of imitation. Rather, it is an

> immersion into phenomena and the depiction of a certain event, human or object as the artist sees it, at the same time reflecting various contextual factors that have influenced the story portrayed. And it is only when we are able to recognize the main causes and effects of the accounted story that we have worked our way to the truth. (Kroflič, 2012, p. 269)

Sriraman and Adrian (2004) address the interdisciplinary nature of inductive processes, and purport that the inductive process, when experienced by students, allows them to discover generalizations, making it more probable that students will remember and use the process in the future. Alzu'bi (2015) conducted a study comparing effectiveness of teaching grammar using the inductive and deductive methods, and concludes, ". . . the teaching of English grammar through [the] inductive approach plays a positive role in improving the academic achievement of the students" (p.192) at the university and elementary levels. The Concept Attainment Model is another model that requires students and teachers to think about concepts by looking at specific instances to understand an important concept.

Concept Attainment Strategy

Joyce and Weil (1986) clearly detail "Attaining Concepts" and "Thinking Inductively" as strategies that address the diverse needs of students. The Concept Attainment Model is the explicit teaching of important concepts and the model is very specific in how it is presented. Although it is inductive in nature and requires students and teachers to think from specific to general, it is grouped in Joyce, Weil, and Calhoun's (2015) Information Processing family of models, as the model allows students to learn information deeply and effectively. The Concept Attainment Model, attributed initially to the research and theory of Jerome "Bruner's study of

concepts and how people attain them" (p. 135), follows a process during which students attain concepts developed by others. As detailed, students are presented with data sets and led to discover that some items belong to a category is pre-determined by the teacher. As students later advance in their understanding of the model, they may develop data sets to present to others and have them attain the concept they have in mind. Examples (called exemplars) and nonexamples are strategically presented in a determined format by the teacher. The students focus on the attributes of the data presented, looking for a relationship between the examples. Attributes include essential and nonessential attributes, and concepts are both conjunctive and disjunctive. The negative examples provided set the parameters or boundaries for the concept to be attained. An example provided by Joyce, Weil, and Calhoun (2015) was that of impressionism. They emphasize, "Impressionistic styles have much in common with other painting styles. It is important for students to 'see' examples that have no traces of impressionism for them to be absolutely certain about the defining attributes" (p. 139). The ordering of the data sets is important, as a gradual understanding of the concept with all of its attributes is the goal to students' ability to formulate hypothesis. Tennyson and Cocchiarella (1986) concurred that students develop procedural knowledge of how to attain concepts with continued practice. As students learn and possess more procedural knowledge, the more effectively they attain and apply conceptual knowledge. For that reason, the analysis of thinking to facilitate concept attainment is most important.

The Syntax of the Concept Attainment Model (Joyce, Weil, & Calhoun, 2015) are: Presentation of Data and Identification of the Concept, Testing the Attainment of the Concept, and Analysis of Thinking Strategies. During the Presentation of the Data and the Identification of the Concept the teacher presents labeled examples (usually as yes or no), students compare

attributes in positive and negative examples, students generate and test hypotheses, and students state a definition according to the essential attributes. In Testing Attainment of the Concept, students identify additional unlabeled examples as yes or no, teacher confirms hypotheses, names concept, and restates definitions according to essential attributes, and students then generate examples. During the Analysis of Thinking Strategies, students describe thoughts, students discuss role of hypotheses and attributes, and students discuss type and number of hypotheses. Concrete materials may be used as examples, therefore objects, pictures, words, or any combination thereof may be used as part of the data sets. Joyce, Weil, and Calhoun (2015) indicate the instructional effects of using the Concept Attainment Strategy include nature of concepts (understanding), improved concept-building strategies, and inductive reasoning (specific to general, using specific instances or examples to determine a concept). The nurturant effects include sensitivity to logical reasoning, tolerance of ambiguity (but appreciation of logic), and awareness of alternate perspectives. Concept Formation is also an inductive strategy for which students are required to "decide on the basis on which they will build categories, [whereas] concept attainment requires a student to figure out the attributes of a category already formed in another person's mind. . . (p. 132). A similar approach to Concept Attainment has been documented (Robert Gagne, 1965; Merrill and Tennyson, 1977; McKinney, Warren, Larkins, Ford, and Davis, 1983). The models documented and described are built on the same premises, but are different in implementation, which indicates that teachers have models from which to choose that are effective in teaching concepts.

Researchers have examined the use of inductive methods as well as deductive methods and their impact on student learning for decades with the results favoring the inductive models as opposed to traditional models that promote deductive reasoning. Guillaume (2012) pointed out,

"most of us have had limited experiences with inductive instruction as students" (p. 152), which demonstrates that our experiences are limited to those that are primarily teacher centered rather than student centered. The teacher-centered approach has continued to dominate teaching practices even though the constructivist philosophy, which heavily emphasizes inquiry-based learning, has been known for decades. The inductive model has been studied in a variety of settings, with varying ages, and in a variety of content areas (Ahmed, Gujjar, Janjua, & Bajwa, 2012; Bilica & Flores, 2009; Bouleware & Crow, 2008; Hayes, Fritz, & Heit, 2013; Heit & Rotello, 2010; Kroflič, 2012; Reid, 2011; Sriraman, & Adrian, 2004). Reid (2011) reveals that the concept attainment strategy is a creative way to engage students and meets the goal of teaching analytical skills (p. 51). Reid also indicates,

> Concept attainment lessons are one way to prompt students to carefully examine data, organize their thinking, observe relationships, and synthesize their understanding—It allows for an interactive presentation—there is an element of discovery as students examine examples and nonexamples that lead them to important attributes of the concept. (pp. 54-55)

Comparative studies of the inductive and deductive methods of teaching have yielded results in favor of inductive teaching, especially concept attainment. The authors argue that inductive thinking is universal among diverse populations and similar across cultures. Ceballos's (1986) study was designed to determine the differential effects of inductive and deductive teaching methods when teaching science and social studies to fourth grade students. Ceballos (1986) concluded, " . . . inductive and deductive approaches were equally effective in promoting concept formation/attainment and in fostering the metacognitive strategies that are crucial to higher-order thinking" (x). Kroflič (2012) explains that the comprehensive inductive educational approach is important in "dispelling children's fear of difference, abating stereotypical judgments/prejudice, using mediation as a method of conflict resolution and encouraging

cooperation. One of the most efficient activities in achieving these objectives is education through art" (p. 266). One comparative study of concept attainment and traditional methods in teaching (Ahmed, Guyjar, Janjua, & Bajwa, 2012) demonstrates the following conclusions:

> 1) Study results proved that the concept attainment model emerged as an effective instructional strategy in teaching of English; 2) It was identified that high achievers trainee teachers registered better academic performance through the concept attainment model; and 3) It was noted that low achievers trainee teachers produced better results when taught through the concept attainment model. (pp. 223-224)

Salvi's (1991) major research findings indicate the Concept Attainment Model (CAM) was effective in terms of attainment of concepts of English, achievement in English, inductive reasoning and reactions toward Concept Attainment. Additionally, the CAM was "found to be significantly superior to the Traditional Method in terms of attainment of concepts of English, achievement in English and inductive reasoning of the students when the groups were matched statistically with respect to intelligence, SES and previous achievement in English" (p. 149). Salvi's (1991) study also demonstrated superior positive change in attitude towards English compared to Traditional Method.

Sriraman and Adrian (2004) conclude that the implications for practice are:

> the inductive model takes into account the social and cultural dimensions of the inductive processes—it takes into account the interaction between the social and cultural dimensions of the inductive process—it takes into account the interaction between an individual, student, the classroom, the teacher, and the culture. (p. 419)

As Reid (2011) points out, concept attainment is not a strategy that a teacher would use exclusively. There is no one strategy that serves all purposes and needs in a classroom. That is why teachers need to have a repertoire of strategies from which they may choose to address the content and needs of the students.

Blended Strategies

Joyce and Weil (1985) explain, "Perhaps the most interesting research has resulted

when several models have been combined to attack multifaceted educational problems" (p. 4). The authors cite the research of Robert Spaulding (1970), who "developed a program for economically poor, socially disruptive, low achieving children that used social learning theory, techniques based on knowledge from developmental psychology, and Inductive Teaching Models" (p. 4). The program was a success in that it showed improvement in "students' social skill and cooperative learning behavior, induced students to take more responsibility for their education, substantially increased students' learning of basic skills and knowledge, and even improved students' performances on tests of intelligence" (p. 4). Joyce and Weil (2015) state,

> Other models are also useful for evaluating or applying the material presented by the advance organizer. . . . after introducing new material in a deductive, presentational way, can be followed by inductive concept attainment activities that reinforce the material or that informally evaluate students' acquisition of the material. (p. 215)

Joyce, Weil, and Calhoun (2015) indicate that both the Concept Attainment (inductive) and Advance Organizer (deductive) models lend themselves for use with technology.

Heit and Rotello (2010) studied the relations between inductive and deductive reasoning. They state, "--we suggest that by varying instructions and time to respond, there will be a rich set of results that will be an important test bed for developing and testing models of reasoning" (p. 8). Clark, Sharp, & Tai (2017) envision the need for flexibility and autonomy to meet the learning needs of students. The authors state, "The landscape of tertiary education has significantly changed in recent years with increasing pressure on universities to 'globalize' and expand their reach internationally" (p. 2). Accordingly, there is a need to

> harness the expanding role of technology and recognize the increasing need for promoting flexible, collaborative, contextual and technology-enabled learning. . . a focus on what the student does is important so that 'deep learning,' the academic ideal, is fostered regardless of location. (Biggs., J, & Tang, C., 2012, p. 11)

A variety of learning tasks were required that applied several models of teaching, both inductive and deductive, demonstrating the strength of combining methods to strengthen and deepen student learning (Clark, Sharp, & Tai, 2017). Dunn (2006) offers background for learning concepts. "As an individual experiences a particular aspect of a given concept, the mind creates an inner mental representation unique to that particular individual. When remembering the concept, the mental representation is recalled, ready for new input" (p. 35). Dunn extrapolates this concept of learning concepts to the intuitive listening experience. Educators need to find the connections that relate to memory and the learning and storing of information in order to maximize learning given the limited time students and teachers have to process information. This means combining strategies to strengthen and deepen the learning experience. A compiled list of strategies is provided in Appendix B as an easy reference to assist with determining appropriate teaching/learning strategies.

Statement of the Hypothesis

Although the quality and quantity of research related to best practices has improved over the past decades, today's teachers are far from familiar with current research on teaching strategies, including Concept Attainment and its comparative impact on student learning. Because inductive teaching continues to be less emphasized and utilized in today's classroom and updated research appears to be sparse, further study is warranted. Therefore, it was hypothesized that Art I students who are taught through the use of inductive teaching strategies (concept attainment) and those who are taught through the use of deductive teaching strategies (traditional methods) will exhibit no difference in their achievement and on their art products, and no difference in their survey responses based on the two methods of instruction.

CHAPTER 2: METHOD

Both quantitative and qualitative approaches were used in this project. The participants and how their art products were affected were investigated. Data were collected in the form of surveys, quizzes, and rubrics related to student products (art projects). The data was organized and examined with conclusions drawn from the data analysis.

Participants

The participants in this study were 42 secondary students who were officially enrolled in two different sections of Visual Art I, who attend a public high school in southern Mississippi. The classes consisted of students that had limited experience in art. All members of the two Visual Art I classes were invited to participate in the action research study. Two students dropped out before the study began. The research occurred during regularly scheduled 90-minute blocks of time in the art room where the classes normally meet. There were no changes to the students' schedules because of the research.

Instruments

1. Written surveys were developed as data collection instruments (Appendix C). These were administered at different points during the action research: Students were surveyed before the initial lesson and surveyed again at the end of the study. The survey addressed questions related to affective perceptions of art. At the beginning of the study, a survey that addressed if learning was meaningful or enjoyable was administered to both the control and treatment groups. An analysis of the survey instrument was conducted using pre-survey responses. Cronback's *Alpha* was used to determine the reliability of the instrument. The survey instrument was found to be highly reliable (16 items; $\alpha = .94$). An independent *t*-test was conducted to determine statistical significance between the responses of the control group and treatment groups. As seen in Table 1, there was not a

statistically significant difference in the responses for the control group ($M = 55.29$, $SD = 14.81$) and the treatment group ($M = 60.57$, $SD = 11.43$; $t(40) = -1.30$, $p = .08$. Conducting a comparability study was important. The reason is that if there were a statistical difference on the pre-assessment, then the researcher would need to control for the difference when the results were analyzed.

Table 1

Pre Survey—Independent t-test Comparison of Responses at the Beginning of Study

Group	*N*	*df*	*Mean*	*S.D.*	*t value*	*Sig.*
CAS	21	40	60.57	11.43	-1.30	.08
TS	21		55.29	14.81		

2. Quizzes, located in Appendix D, were developed as data collection instruments. This quantitative assessment measured the students' knowledge of watercolor techniques vocabulary. At the beginning the study, a pre-test (quiz) that measured knowledge of watercolors vocabulary was administered to both the control and treatment groups. Kuder-Richardson 20 (*KR*-20) was used to determine the reliability of the instrument. The quiz was found to be reasonably reliable (20 items; *KR*-20 = .61). An independent *t*-test was conducted to determine statistical significance between the scores of the control group and treatment groups. As Table 2 shows, there was not a significant difference in the scores for the control group ($M = 8.86$, $SD = 3.80$) and the treatment group ($M = 9.05$, $SD = 2.78$); $t(40) = -.19$, $p = .19$. This indicates that prior to administering the treatment, the two groups were comparable on this measure, knowledge of watercolor techniques vocabulary, and controlling for differences was not necessary. The quiz was

administered as a pretest, before the lessons were taught, and as a posttest at the end of the study, after all projects were completed. The instrument was used in its original state, although there is a reliability limitation.

Table 2

Pretest (Quiz)--Independent t-test Comparison of Scores Prior to the Study

Group	*N*	*df*	*Mean*	*S.D.*	*t value*	*Sig.*
CAS	21	40	9.05	2.78	-.19	.19
TS	21		8.86	3.80		

3. Art products (projects -- 3 artists x 9 watercolors) from both groups were evaluated with a rubric (Appendix E). The rubric was only used after instruction since the students did not have projects to grade as a pre-assessment. The reliability of the instrument could not be assessed given the type of instrument and the timing if its implementation. This quantitative assessment measures the students' application of instruction. The evaluation has a somewhat qualitative component to it, as the use of the rubric is rather subjective. Scores on the rubrics were compared for each group to see if there was a significant difference in the quality of student products. Project grades were compared using SPSS to conduct an independent t-test comparing the two classes to determine if there was a statistical difference. Photographs were taken during the action research process. The photos, located in Appendix E, were focused only on the art products.

Design

This action research involved qualitative and quantitative research methods, including the examination of artifacts (projects) produced by students in a controlled environment to

determine if incorporating an inductive strategy (concept attainment) into the teaching of art concepts affects student performance on depth of understanding as demonstrated by learner questionnaire/survey, performance on quizzes, and application to art projects or artwork produced. The students are a population of convenience as they are in Visual Art I classes taught by the principal investigator. One class, the control group, was taught using traditional methods. A second class was taught using concept attainment is the control group. Both groups studied the same watercolor techniques and vocabulary. The content was the same, but it was presented using different teaching strategies. The independent variable was the use of the concept attainment strategy for the lessons taught. The dependent variables were the responses from the surveys, scores on quizzes, and grades assigned on the art projects. The data was collected through surveys, results of quizzes, and assessment of created artifacts (art projects). The data was analyzed and interpreted to determine if incorporating an inductive teaching strategy (concept attainment) into the teaching of art concepts affects student performance, or depth of understanding [as demonstrated by learner questionnaire/survey], performance on quizzes, and application to art projects. An independent *t*-test was applied to each measure to determine if there was a significant statistical difference between the groups, depending on the teaching strategy applied, inductive concept attainment or deductive traditional method.

Procedure

A survey was administered to both the control group and the treatment group at the beginning the study, as seen in Table 1. A quiz (pretest) was administered to each group prior to the beginning of the lessons on watercolor techniques as shown on Table 2.

Students in Block One were taught using the traditional, deductive method of teaching. Students were shown examples of watercolor techniques through examples of artwork by well-known artists and information was provided in a logical format from general to specific.

Students in Block Four were taught using the inductive, concept attainment method of teaching, with a focus on a format that progressed from specific to general. See Appendix F for the supporting materials that were used as part of this research that include lesson plans (F1), unit plan (F2), and watercolor vocabulary PowerPoint (F3). Students were presented with examples and nonexamples by varying artists, illustrating the watercolor techniques the class was going to be studying. Students were required to look at the examples, and examine the visual attributes, or characteristics. They were asked to do the same with the nonexamples. Once students had contributed their ideas and they were written on the board, they were asked to generalize the attributes to determine if they could figure out the concept the teacher had in mind that was represented by the examples and limited by the nonexamples. After exhausting all of the examples and nonexamples, the attributes on the board were revisited, and the students were asked if they could name the concept or generalization, based on the attributes. If they could not name the concept, the concept name was offered by the teacher, written on the board, and further explained in terms of how the attributes contributed to the identification of the concept. Students were asked to offer further examples of the concept named. This continued for all techniques.

A posttest/quiz for this content was administered at the end of the study. Students further independently researched artists to find examples whose artwork they wanted to emulate and represent in their student products. The instructions for the student products were then provided and time was allotted for project completion. Completed projects were evaluated using a rubric

constructed by the teacher (Appendix E). Upon completion of the student projects, a survey was again administered.

After implementation of the treatment, the treatment group and the control group were compared on three measures. A survey, which measured learning as meaningful and enjoyable; a quiz, which measured knowledge of watercolors vocabulary, and unit projects, which demonstrated application of instruction with watercolors. Comparisons were made to determine the differences between the groups who had been taught using the inductive strategy concept attainment and the deductive traditional method.

CHAPTER 3: RESULTS

Analysis and Conclusions

Research questions and analysis:

The purpose of this study was to determine if incorporating an inductive teaching strategy (concept attainment) into the teaching of art concepts affects student performance on depth of understanding [as demonstrated by learner questionnaire/survey], performance on quizzes, and application to art projects. The following analysis considers each of the research questions in relation to the data that was gathered.

Question 1. Will incorporating inductive teaching methods (concept attainment) make learning more meaningful or enjoyable for my students than deductive (traditional method)?

The pre-survey analysis indicates that prior to administering the treatment, the two groups were comparable on the measure that addressed if learning was meaningful or enjoyable was administered to both the control and treatment groups. Following the completion of post survey, an independent *t* test was used to determine if there was a statistically significant difference between the control group and the treatment group, as seen in Table 3. The student survey comparison indicates that incorporating the inductive teaching method of concept attainment compared to the inductive traditional method makes no difference in making learning more meaningful or enjoyable for students. Cronbach's *Alpha* was used to determine the reliability of the survey after the treatment was implemented. The survey was found to be highly reliable (16 items; $\alpha = .90$). An independent *t*-test of the survey responses was conducted to determine statistical significance between the responses of the control group and treatment groups after the implementation of the treatment. There was not a statistically significant difference in the responses for the control group ($M = 56.52$, $SD = 9.38$) and the treatment group ($M = 62.67$, *SD*

= 11.26); $t(40) = -1.29$, $p = .38$. The t-test post survey comparison between the two classes indicate there was not a statistically significant difference between the survey responses of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). There are six assumptions associated with using an independent *t*-test. All six assumptions were tested and they were met. It was clear from the noticeable interaction that students were more engaged during the concept attainment strategy. The students appeared to enjoy the strategy more, based on their observed level of enthusiasm during the teaching episodes when the concept attainment strategy was applied. Although overall there was no statistical difference between the post survey responses, when the survey results were analyzed to compare individual items, there were significantly different results for three of the items. For item number six, the treatment class responses (M=4.24, SD=1.07) were statistically significantly higher than the control class (M=3.33, SD=1.24); $t(40) = -2.61$, $p = .01$, which indicated the treatment class experienced a higher level of pride in their art work. For item number nine, the treatment class responses (M=4.62, SD=.67) were statistically significantly higher than the control class (M=3.86, SD=1.11); $t(40) = -2.70$, $p = .01$, which indicated the treatment group expressed a higher level of agreement with the statement that art encourages "out of the box" thinking. For item number 11, the treatment class responses (M=3.57, SD=1.17) were statistically significantly higher than the control class (M=2.62, SD=1.20); $t(40) = -2.61$, $p = .01$, which indicated the treatment group expressed a higher level of agreement with the statement they enjoy doing art on their own time. The differences indicate that further study and research is warranted.

Question 2. Will incorporating inductive teaching methods (concept attainment) allow students to learn content at a higher level, based on the quiz (pretest and posttest) administered? The

Table 3

Independent t-test Post Survey Results

Group	*N*	*df*	*Mean*	*S.D.*	*t value*	*Sig.*
CAS	21	40	62.67	11.26	-1.29	.38
TS	21		56.52	9.38		

comparison of quiz results indicates incorporating inductive concept attainment teaching method makes no difference in facilitating students to learn content at a higher level, based on the quiz pretest and posttest comparison scores. An independent *t*-test of quiz scores was conducted to determine statistical significance between the scores of the control group and treatment groups. As seen in Table 4, there was not a significant difference in the scores for the control group (*M* =16.81. *SD*= 2.40) and the treatment group (*M* = 16.71, *SD* = 2.97); *t*(40) = .11, *p* = .97. The *t*-test post quiz grade comparison between the two classes indicate there was not a statistically significant difference between the learning (achievement in knowledge of watercolors vocabulary) of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). The pretest quiz grades were compared using SPSS to conduct an independent t-test of the two classes and results indicate there was not a statistically significant difference. Therefore, the two classes were comparable before beginning the treatment and controlling for differences was not necessary. Next, the posttest grades were compared using SPSS to conduct an independent *t*-test comparing the two classes and there was not a statistically significant difference. There are six assumptions associated with using an independent *t*-test. All six assumptions were tested and they were met.

Question 3. Will there be a noticeable difference in student products depending on which method of instruction is used (inductive--concept attainment or inductive--traditional method)?

The evaluations of student products (watercolor projects), using the designed rubric, indicate there is no noticeable difference in student products, or application of instruction, dependent on the method of instruction used, inductive concept attainment or deductive traditional method. See photographs of Student Products—3 Artists x 9 Watercolors on pages 70 and 71 in Appendix E. An independent *t*-test of project grades was conducted to determine the statistical significance between the grades of the control group and treatment groups. There was not a significant difference in the scores for the control group (M=74.47, SD=12.24) and the treatment

Table 4

Independent t-test Post Quiz Grades

Group	*N*	*df*	*Mean*	*S.D.*	*t value*	*Sig.*
CAS	21	40	16.71	2.97	.11	.97
TS	21		16.81	2.40		

group (M=80.53, SD= 15.54; t(36)=1.33, p= .18). The t-test project grade comparison between the two classes indicates there was not a statistically significant difference between the products (application of instruction) of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). The project grades were compared using SPSS to conduct an independent t-test comparing the two classes and no statistically significance was found, as shown in Table 5. The null hypothesis was accepted.

There are six assumptions associated with using an independent *t*-test. All six assumptions were tested and they were met.

Question 4. What is the impact of inductive teaching methods on concept learning in secondary art courses?

Three measures were used to determine the impact of inductive teaching methods on concept learning: Surveys, Quizzes, and Project Grades. All three indicate, as detailed in the preceding results, there was no significant difference in the learning of concepts, the application of concepts, or the enjoyment of learning concepts through the use of the inductive concept attainment strategy, as seen in Tables 3, 4, and 5. There was not a statistically significant

Table 5

Independent t-test Project (3 Artists x 9 Watercolors) Grades

Group	*N*	*df*	*Mean*	*S.D.*	*t value*	*Sig.*
CAS	19	36	80.53	15.54	-1.33	.18
TS	19		74.47	12.24		

difference in the survey responses for the control group (M = 56.52, SD = 9.38) and the treatment group (M = 62.67, SD = 11.26); $t(40) = -1.29$, $p = .38$. The *t*-test post survey comparison between the two classes indicate there was not a statistically significant difference between the survey responses of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). There was not a significant difference in the scores for the control group (M =16.81, SD= 2.40) and the treatment group (M = 16.71, SD = 2.97); $t(40) = .11$, $p = .97$. The null hypothesis was accepted. The *t*-

test post quiz grade comparison between the two classes indicate there was not a statistically significant difference between the learning (achievement in knowledge of watercolors vocabulary) of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). There was not a significant difference in the project scores for the control group (M=74.47, SD=12.24) and the treatment group (M=80.53, SD= 15.54; t(36)=1.33, p= .18). The t-test project grade comparison between the two classes indicates there was not a statistically significant difference between the products (application of instruction) of students taught using the inductive concept attainment strategy (experimental group) and the deductive traditional strategy (control group). Subsequently, based on the data collection, statistical analysis, and interpretations, there was no significant impact of deductive teaching methods on concept learning in entry level/beginning art courses.

Hypotheses

The researcher took the null hypothesis for each question posed. One hypothesis for this research was that there will be no difference in the survey scores of students based on the two methods of instruction, inductive (concept attainment) and deductive (traditional method). The null hypothesis was accepted as the *t*-test results indicated there was no statistically significant difference between the post survey responses. The total and each item were analyzed. The *t*-test indicated that there was not a significant difference in the totals, and therefore the null could not be rejected. There was not a statistically significant difference in the responses for the control group (M = 56.52, SD = 9.38) and the treatment group (M = 62.67, SD = 11.26); t(40) = -1.29, p = .38. Again, the individual item analysis indicated that there were statistically significant differences between the two classes on their post-survey responses for items 6 (I am proud of my best work in art.), 9 (Art encourages/supports “out of” box thinking.), and 11 (I enjoy doing art

on my own time, when not in school). The outcome was higher for the group of students who were taught using the concept attainment strategy. Further research is needed to specifically determine the reasons for the significance of these differences and the impact inductive method of concept attainment has on teaching and learning art.

A second hypothesis was that there will be no difference in the quiz scores (pre and posttest) based on the two methods of instruction, inductive (concept attainment) and deductive (traditional method). The null hypothesis was accepted, as the t-test results from the comparison of the pretest grades were not statistically significantly different. The two classes were comparable before beginning the treatment and controlling for differences was not necessary. The t-test posttest grades comparison between the two classes indicate there was not a statistically significance difference (Table 4). There was not a significant difference in the scores for the control group (M =16.81. SD= 2.40) and the treatment group (M = 16.71, SD = 2.97); $t(40) = .11$, $p = .97$.

A third hypothesis is that there will be no noticeable difference in student products (project grades) depending on which method of instruction (inductive concept attainment or deductive traditional) is used. The null hypothesis was accepted, based on the comparison of the project grades using SPSS to conduct an independent *t*-test comparing the two classes (Table 5). There was not a significant difference in the scores for the control group (M=74.47, SD=12.24) and the treatment group (M=80.53, SD= 15.54; $t(36)=1.33$, p= .18). .

Unanticipated Findings

In the process of analyzing the data, it was noted that although the results did not show an overall difference in the pre-survey and post survey items, three items on the questionnaire had a statistically significant higher outcome for the concept attainment model. The results indicate

further research is necessary to explore the possibilities related to student attitudes and motivation toward art curriculum and strategies that are used to teach art concepts.

To summarize, this research suggests there is no statistical difference discerned in incorporating an inductive teaching strategy (concept attainment) into the teaching of art concepts in terms of its effects on student performance in depth of understanding [as demonstrated by learner questionnaire/survey], performance on quizzes, and application of art products produces no statistically significant difference. Additional research is needed to test the accuracy of the findings of this research.

CHAPTER 4: DISCUSSION

Discussion

In this study, both qualitative and quantitative methods were used to evaluate and analyze the results. A limitation of this research study was the small sample size; therefore, a larger sample size is needed. The schedule did not include a random selection. In addition, only one teacher was involved in teaching the lessons and applying the strategies. As a result, there could be spillover from one class to the next. Even though the teacher tried to keep the two strategies distinctly different, because one person was teaching, the strategy may not be totally pure. Per the research questions, either strategy could have been effective. Some students benefit from one strategy over the other. The best solution may be to apply a blended strategy. Strategies are not mutually exclusive and can be combined to provide effective teaching and learning. Other variables included the widespread range of the students including their grade level. Students ranged from grade nine to grade twelve. Experience and knowledge of art are also variables to be considered that may be sources of disparity. One implication of this study's results is that future study is needed on blended methodology. If this research were repeated, suggestions are to include a larger sample and extend the days allowed for teaching to provide more in-depth background of the concept attainment model to the students. The study took place toward the end of the semester, and the students may have been more anxious or restless as the semester was coming to a close, just before the December holidays and extended break.

Implications

As mentioned earlier, this research project tells me that both approaches, inductive and deductive, are effective teaching strategies. Generally, the results indicate that more than one strategy may be effective in the art classroom. The results remind me of the foundational

information indicated by Joyce, Weil and Calhoun (2015, 1986), that the common elements of the both models (Concept Attainment and Advance Organizer) are that they both may be used with students of all ages, with all content areas, and they both promote long term learning. The research of Clark, Sharp, and Tai (2017) confirm the potency of combining teaching methods to strengthen student learning. Time is a commodity in the art classroom. Therefore, it is important for teachers to choose teaching strategies that will promote the most positive outcomes in student learning while promoting life-long learning. When I examined the classification of the 31 randomly selected teaching strategies shown in Appendix B: Selected Instructional Strategies Classification by Inductive (I) and/or Deductive Thinking Patterns (D), twelve were inductive, ten were deductive, and nine were a combination of deductive/inductive thinking. Because art education is comprised of art studio, art history, aesthetics, and art criticism, these various methods are useful to teach these various content areas. Art history instruction is often achieved by Declarative Lesson Plans and Direct Instruction. Both of these methods are classified as deductive strategies. However, the Inquiry Method is often used in studio art education, as is Inquiry Training pioneered by Carl Rogers. Additionally, it is possible a combination of strategies will be effective in promoting student learning and enjoyment of art.

Significance

The purpose for the research was to determine if incorporating an inductive teaching strategy (concept attainment) into the teaching of art concepts affects student performance [as demonstrated by learner questionnaire/survey], performance on quizzes, and application to art products. Although Alzu'bi's (2015) research concluded the inductive approach improved the academic achievement of students in grammar, the same results were not confirmed with the teaching of watercolor techniques, vocabulary, and attitudes toward art in this study. The results

from this research show there is no significant difference in quiz scores, product scores (watercolor project), or overall survey responses.

This research could have an impact on curricular planning in determining educational strategies that are used to teach varying art concepts and skills. Since the results from this study indicate there is no significant difference in quiz scores, product scores, and overall survey responses, but there is a significant difference between the two classes on their post-survey responses for items 6, 9, and 11, favoring the concept attainment strategy, it would be important to replicate the study or conduct further research in this area. Specifically, there was a significant difference between the two classes on their post-survey responses for item 6 (I am proud of my best work in art.), item 9 (Art encourages/supports "out of the box" thinking.), and item 11 (I enjoy doing art on my own time, when not in school.). The Art Survey is located in Appendix C. This research may lead to other findings that support the use of particular teaching strategies that promote long-term learning.

Integrating, or blending the use of concept attainment and the advance organizer as instructional strategies may be another research endeavor worth pursuing. The results indicate that continued research merits exploring inductive and deductive teaching strategies as part of teaching visual art. In support of the research of Sriraman and Adrian (2004), it is important for students to think for themselves. The Concept Attainment promotes critical thinking by focusing on specific examples to determine a larger idea or concept. Tennyson and Cocchiarella (1986) affirm that continuing practice improves procedural knowledge for attaining concepts. Several studies (Ahmed, Gujjar, Janjua, & Bajwa, 2012; Bilica & Flores, 2009; Bouleware & Crow, 2008; Hayes, Fritz, & Heit, 2013; Heit & Rotello, 2010; Kroflič, 2012; Reid, 2011; Sriraman, & Adrian, 2004) demonstrated support for the use of Concept Attainment. Similarly, Reid (2011)

concurs that concept attainment strategy effectively meets the goal of teaching analytic skills while providing a more engaging and interactive presentation. This researcher found that to be true during lesson presentations using concept attainment.

On the other hand, the Advance Organizer focuses on thinking from general to specific, and students need to learn in both ways. Both strategies belong to the Information Processing Family, as indicated by Joyce, Weil, and Calhoun (2015), and we know that students will be expected to learn more knowledge rather than less in the future. The information students need to process, understand, and use will only increase in the future. John Dewey with his progressivist view purported that students must be taught how to think rather than what to think. Expanding our repertoire of teaching strategies in the art classroom with more intention will improve the learning and the learning experiences of our students to prepare them for the 21st Century.

Although the study did not show a significant difference in the overall post-survey responses of students who experienced the two different instructional methods. Three items did show a significant difference between the two methods: "I am proud of my work," Art encourages/supports out of box thinking," and "I enjoy doing art on my own time, when not in school." These phrases seem to indicate personal "ownership" of the artwork. One might suggest that the young artists experiencing inductive instruction would be more involved with recognizing their personal involvement with the art projects. The Concept Attainment Model, as indicated by the survey results, and mirrored in the earlier research of Gagne, 1965; Merrill and Tennyson, 1977; McKinney, Warren, Larkins, Ford, and Davis, 1983, provides a viable strategy for promoting life-long learning and the enjoyment of learning, a most ambitious goal for all educators in all content areas. However, as indicated by Reid (2011), neither concept attainment

nor any strategy should be used exclusively as no single strategy meets the needs and purposes of all students in a classroom.

REFERENCES

Ahmed, I., Gujjar, A. A., Janjua, S. A. , & Bajwa, N. (2012). A comparative study of concept attainment model and traditional method in teaching of English in teacher education course. *Language in India*, *12*(3), 216-227. Retrieved from http://galegroup.com

Alzu'bi, M.A. (2015). Effectiveness of inductive and deductive methods in teaching grammar. *Advances in Language and Literary Studies*, (*6*)2, 187-193. doi:10.575/aiac.alls.v.6n.2p.187

Biggs, J., & Tang C. (2012). Focusing on first year assessment: Surface or deep approaches to learning. *The International Journal of First Year in Higher Education*. *3*(2), 9-20.

Bilica, K., & Flores, M. (2009). Inductive & deductive science thinking: A model for lesson development. *Science Scope*, *32*(6), 36-41. doi: 10.2505/3/ss09_032_06

Bouleware, B. J., & Crow, M. L. (2008). Using the concept attainment strategy to enhance reading comprehension. *The Reading Teacher*, *61*(6), 491-495. doi: 10.1598/RT.61.6.7

Ceballos, E. G. (1986). *Effects of concept teaching methods on cognitive thinking ability* (Doctoral dissertation). Retrieved from ProQuest. (8700174)

Clark, A., Sharp, K., & Tai, M. (2017). Technology-enabled curriculum for transnational education in art history and theory. *International Journal of Education & the Arts*, *18*(40), 1-21.Retrieved from http://www.ijea.org/v18n40/

Dunn, R. E. (2006). Teaching for lifelong, intuitive listening. *Arts Education Policy Review*, *103*(3), 33-38.

Gagne, R. (1965). *The conditions of learning*. New York, NY: Holt, Rinehart & Winston.

Garrett, J. L. (2007). A teaching repertoire. *Kappa Delta Pi Record 44*(1), 6-7.

Guillaume, A. M. (2012). *K-12 classroom teachings: A primer for new professionals* (pp. 154, 156-158, 174). Boston: Pearson Education, Inc.

Hayes, B. K., Fritz, K., & Heit, E. (2013). The relationship between memory and inductive reasoning: Does it develop? *Developmental Psychology*, *49*(5), 848-860. doi: 10.1037/a0028891

Heit, E., & Rotello, C. M. (2010). Relations between inductive reasoning and deductive reasoning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *36*(3), 805-812. doi: 10.1037/a0018784

Joyce, B., & Calhoun, E. (1998). Literacy across the curriculum. *Learning to teach inductively* (96-120), Needham Heights: Allyn & Bacon.

Joyce, B., & Weil, M. (1986). Attaining concepts; Thinking inductively. *Models of teaching* (pp. 25-39, 40-54). Englewood Cliffs, NJ: Prentice-Hall, Inc.

Joyce, B., Weil, M., & Calhoun, E. (2015). *Models of teaching* (9th ed.). Upper Saddle River, NJ: Pearson.

Kauchak, D., & Eggen, P. (2017). *Introduction to teaching: Becoming a professional* (6th ed.). Upper Saddle River: NJ: Prentice Hall.

Kroflič, R. (2012). The role of artistic experiences in the comprehensive inductive educational approach. *Pastoral Care in Education*, *30*(3), 263-280. doi: 10.1080/02643944.2012.671342

Kumar, A., & Mathur, M. (2013). Effect of concept attainment on acquisition of physics concepts. *Universal Journal of Educational Research*, *1*(3), 165-169. doi: 10.13189/ujer.2013.010304

McKinney, C., Warren, A., Larkins, G., Ford, M., & Davis, J (1983). The effectiveness of three methods of teaching social studies concepts to fourth-grade students: An aptitude-treatment interaction study. *American Educational Research Journal*, *20*, 663-670.

Merrill, M., & Tennyson, R. (1977). Concept teaching: An instructional design guide. Englewood Cliffs, NJ: Educational Technology.

National Art Education Association, NAEA research Commission. (http://www.arteducators.org/research/research).

North Carolina Department of Public Instruction. (http://www.dpi.state.nc.us).

Reid, B. (2011). The concept attainment strategy: inductive lessons on arachnids and isomers.

Science Teacher, 78(1), 51-55. doi: 10.2505/3/ts11_078_01

Salvi, R. C. (1991). *A study of the effectiveness of concept attainment model for teaching concepts of the English language* (Doctoral dissertation). Retrieved from ProQuest (3736105)

Sriraman, B., & Adrian, H. (2004). The pedagogical value and the interdisciplinary nature of inductive processes in forming generalizations: Reflections from the classroom. *Interchange: A Quarterly Review of Education, 35*(4), 407-422. doi: 10.1007/BF02698891

Spaulding, R. L. (1970). Educational intervention program: Final report. Durham, NC: Duke University.

Stanford Center for Assessment, Learning, and Equity (SCALE). (2016). *edTPA visual arts assessment handbook.* Retrieved from https://secure.aacte.org/apps/rl/resource.php?resid=469&ref=edtpa.

Stinespring, J. A., & Steele, B. D. (1993). Teaching art history: Getting started. Art Education. 46(2), 7-13. Retrieved from http://www.jstor.org/stable/3193370

Tennyson, R., & Cocciarelle, M. (1986). An empirically based instructional design theory for teaching concepts. *Review of Educational Research*. *56*, 40-71.

Wenno, I. H., Wattimena, P., & Maspaitela, L. (2016). Comparative study between drill skill and concept attainment model towards physics learning achievement. International Journal of *Evaluation and Research in Education* (*IJERE*). *5*(3), 211-215.

APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL ITEMS

APPENDIX A1: IRB INITIAL APPROVAL FORM

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834

Office**252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/irb**

Notification of Initial Approval: Expedited

From:	Social/Behavioral IRB
To:	Stephanie Burns
CC:	Cynthia Bickley-Green Cynthia Bickley-Green
Date:	11/17/2016
	UMCIRB 16-001895
Re:	The Impact of Inductive and Deductive Teaching Strategies in Secondary Art I Classes

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 11/16/2016 to 11/15/2017. The research study is eligible for review under expedited category #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be

used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
Action Research ProposalFall2016.docx	Study Protocol or Grant Application
Art Survey.docx	Surveys and Questionnaires
Debriefing Statement.docx	Debriefing Statement
Letter-to-Principals-9-19-13.doc	Additional Items
StephanieBurnsAssent-Template-12-17-years of age.doc	Consent Forms
StephanieBurnsparent letter.docx	Consent Forms
StephanieBurnsSURVEYCover Letter 10 7 14.docx	Consent Forms

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX A2: IRB CONTINUING REVIEW

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/ORIC/irb**

ID:	CR00006435
	2017 Review for UMCIRB 16-001895
Title:	The Impact of Inductive and Deductive Teaching Strategies in Secondary Art I Classes
Description:	Your continuing review has been approved as of 10/29/2017. To navigate to the project workspace, click on the above ID.

APPENDIX A3: CITI PROGRAM COMPLETION REPORT

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Stephanie Burns (ID: 5754575)
- **Email:** burnsst@students.ecu.edu
- **Institution Affiliation:** East Carolina University (ID: 316)
- **Institution Unit:** Art
- **Phone:** 704-233-8128

- **Curriculum Group:** Human Research
- **Course Learner Group:** Group 2.Social / Behavorial Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Report ID:** 20659654
- **Completion Date:** 30-Aug-2016
- **Expiration Date:** 30-Aug-2019
- **Minimum Passing:** 70
- **Reported Score*:** 100

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
Belmont Report and CITI Course Introduction (ID: 1127)	30-Aug-2016	3/3 (100%)
History and Ethical Principles - SBE (ID: 490)	30-Aug-2016	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	30-Aug-2016	5/5 (100%)
The Federal Regulations - SBE (ID: 502)	30-Aug-2016	5/5 (100%)
Assessing Risk - SBE (ID: 503)	30-Aug-2016	5/5 (100%)
Informed Consent - SBE (ID: 504)	30-Aug-2016	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	30-Aug-2016	5/5 (100%)
Research with Prisoners - SBE (ID: 506)	30-Aug-2016	5/5 (100%)
Research with Children - SBE (ID: 507)	30-Aug-2016	5/5 (100%)
Research in Public Elementary and Secondary Schools - SBE (ID: 508)	30-Aug-2016	5/5 (100%)
International Research - SBE (ID: 509)	30-Aug-2016	5/5 (100%)
Internet-Based Research - SBE (ID: 510)	30-Aug-2016	5/5 (100%)
Vulnerable Subjects - Research Involving Workers/Employees (ID: 483)	30-Aug-2016	4/4 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

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COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COMPLETION REPORT - PART 2 OF 2
COURSEWORK TRANSCRIPT**

** NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Stephanie Burns (ID: 5754575)
- **Email:** burnsst@students.ecu.edu
- **Institution Affiliation:** East Carolina University (ID: 316)
- **Institution Unit:** Art
- **Phone:** 704-233-8128

- **Curriculum Group:** Human Research
- **Course Learner Group:** Group 2.Social / Behavorial Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

- **Report ID:** 20659654
- **Report Date:** 30-Aug-2016
- **Current Score**:** 100

REQUIRED, ELECTIVE, AND SUPPLEMENTAL MODULES	MOST RECENT	SCORE
History and Ethical Principles - SBE (ID: 490)	30-Aug-2016	5/5 (100%)
Defining Research with Human Subjects - SBE (ID: 491)	30-Aug-2016	5/5 (100%)
Belmont Report and CITI Course Introduction (ID: 1127)	30-Aug-2016	3/3 (100%)
The Federal Regulations - SBE (ID: 502)	30-Aug-2016	5/5 (100%)
Assessing Risk - SBE (ID: 503)	30-Aug-2016	5/5 (100%)
Informed Consent - SBE (ID: 504)	30-Aug-2016	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	30-Aug-2016	5/5 (100%)
Research with Prisoners - SBE (ID: 506)	30-Aug-2016	5/5 (100%)
Research with Children - SBE (ID: 507)	30-Aug-2016	5/5 (100%)
Research in Public Elementary and Secondary Schools - SBE (ID: 508)	30-Aug-2016	5/5 (100%)
International Research - SBE (ID: 509)	30-Aug-2016	5/5 (100%)
Internet-Based Research - SBE (ID: 510)	30-Aug-2016	5/5 (100%)
Vulnerable Subjects - Research Involving Workers/Employees (ID: 483)	30-Aug-2016	4/4 (100%)

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

Verify at: https://www.citiprogram.org/verify/?aa01468d-78fb-47f0-9fc7-be604e711fc7

Collaborative Institutional Training Initiative (CITI Program)
Email: support@citiprogram.org
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APPENDIX A4: PRINCIPAL'S LETTER OF PERMISSION

East Carolina University

Ms. Cheryle Broadus
D'Iberville High School
15625 Lamey Bridge Road
Biloxi, MS 39532

October 18, 2016

Dear *Ms. Broadus*,

Stephanie Rayanne Burns is working on an *MAED, Masters of Arts in Art Education degree* at East Carolina University. She is completing *Art 6898: Research in Art Education,* a required course where students plan individual action research projects to be completed and presented in their program. As part of a course assignment, *Stephanie Rayanne Burns* has developed an action research project to be conducted over a 4-8 week period at *D'Iberville High School*. This project must be submitted and approved by ECU's Institutional Review Board (IRB) before it can be implemented. *Stephanie Rayanne Burns* is required to obtain your permission to conduct the project at *D'Iberville High School*. *She* is required to provide the IRB with a copy of your permission before the IRB will review and/or approve the project.

Please review the **attached** action research project and sign the bottom of this form if completing this action research project titled, "The Impact of Inductive and Deductive Teaching Strategies in Secondary Art I Classes: A Comparative Study of the Concept Attainment Model and Traditional Method in the Teaching of Art Concepts in Art I Classes," meets with your approval.

Sincerely,

Dr. Cynthia Bickley-Green, Ph.D.
Professor Art Education & Coordinator Art Education Area
School of Art and Design, East Carolina University
Mail Stop 502
Jenkins Fine Arts Center 1318
Greenville, NC 27858
252-328-1293; mobile 252-367-1337
FAX 252-328-6441

Principal's Signature and Date:
I have received and reviewed a copy of *Stephanie Rayanne Burns's* proposed action research project and give permission for her to conduct this action research project at *D'Iberville High School*.

Cheryl Broadus
Signature

10/26/16
Date

APPENDIX A5: PARENT LETTER/CONSENT FORM

Study ID:UMCIRB 16-001895 Date Approved: 11/16/2016 Expiration Date: 11/15/2017

East Carolina University

Dear Parent/Guardian,

I am presently working on my Master's of Art Education at East Carolina University. As part of my degree requirements, I am planning an educational research project to take place in my classroom that will help me to learn more about ways teaching strategies affect student performance in art.

As part of this research project in my classroom, your child will participate in two art lessons and activities that will allow me to determine the influence and effect of being taught lessons using two different teaching strategies. As this study is for educational research purposes only, the results of your child's participation **will not** affect your child's grade.

I am requesting permission from you to use your child's data (painting-water color grid drawing, survey questions, and quiz questions) in my research study. Please know that participation is entirely voluntary.

If you have any questions or concerns, please feel free to contact me at school at 228-392-2678 or by emailing me at stburns@harrison.k12.ms.us . If you have questions about your child's rights as someone taking part in research, you may call the Office of Research Integrity & Compliance (ORIC) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of the OHRI, at 252-744-1971.

If you permit your child's data (grid drawings, survey questions, quiz questions) to be used in my study, please return the attached form by November 3. Thank you for your interest in my educational research study.

Your Partner in Education,
Stephanie Burns
Art Teacher
D'Iberville High School

As the parent or guardian of _____,
(write your student's name)

☐ **I grant my permission for Ms. Burns to use my child's data in her educational research project regarding influences/impact of teaching strategies on student performance in art. I fully understand that my child's data will be kept completely confidential and will be used only for the purposes of Ms. Burns's research study. I also understand that I or my child may at anytime decide to withdraw my/our permission and that my child's grade will not be affected by withdrawing from the study.**

☐ **I do NOT grant my permission for Ms. Burns to use my child's data in her educational research project.**

3/21/2013

APPENDIX A6: ASSENT FORM

Study ID:UMCIRB 16-001895 Date Approved: 11/16/2016 Expiration Date: 11/15/2017

East Carolina University **Assent Form**

IRB Study # **UMCIRB 16-001895**
Title of Study (for purposes of this form): The Impact of Teaching Strategies in Secondary Art I Classes

Person in charge of study: Stephanie Rayanne Burns
Where they work: d'Iberville High School

Study contact phone number: 228-392-2678
Study contact E-mail Address: stburns@harrison.k12.ms.us

People at ECU study ways to make people's lives better. These studies are called research. This research project is trying to find out information about how teaching strategies (ways you are taught) influences/affects student art.

Your parent needs to give permission for you to be in this research. You do not have to be in this research if you do not want to, even if your parent has already given permission.

You may stop being in the study at any time. If you decide to stop, no one will be angry or upset with you.

Why are you doing this research study?
The reason for doing this research is to find out information about how teaching strategies affect performance in art.

Why am I being asked to be in this research study?
We are asking you to take part in this research because you are enrolled in an Art I class.

How many people will take part in this study?
If you decide to be in this research, you will be one of about 50 people taking part in it.

What will happen during this study?
The lessons will take place in a two double block class (90 minutes) in the art room. Following the lessons you will simply be asked to produce a water color grid drawing within a given time, answer some survey questions about the task, and answer quiz questions.

Who will be told the things we learn about you in this study?
The research will be shared with ECU art department and with other art teachers. Your work, with permission, may appear in presentations and writings about the research.

What are the good things that might happen?
Even though you will probably not benefit directly from this research, you may gain some benefit from being in a research study. More information is listed about these things below.

What are the bad things that might happen?
Because of the nature of this study, there is little risk of anything "bad" happening to you. The task that you will be doing is not much different than what you would normally be doing in an art classroom. If you have any problems, please alert me immediately.

Will you get any money or gifts for being in this research study?
You will not receive any money or gifts for being in this research study.

Who should you ask if you have any questions?
If you have questions about the research, you should ask the people listed on the first page of this form. If you have other questions about your rights while you are in this research study you may call the Institutional Review Board at 252-744-2914.

If you decide to take part in this research, you should sign your name below. It means that you agree to take part in this research study.

_____ _____
Sign your name here if you want to be in the study Date

_____
Print your name here if you want to be in the study

_____ _____
Signature of Person Obtaining Assent Date

Stephanie Rayanne Burns_____
Printed Name of Person Obtaining Assent

APPENDIX A7: SURVEY COVER LETTER

Dear Participant,

I am a graduate student at East Carolina University in the School of Art & Design department. I am asking you to take part in my research study entitled, *"*The Impact of Inductive and Deductive Teaching Strategies in Secondary Art I Classes*"*.

The purpose of this research is to learn more about ways teaching strategies affect student performance in art. By doing this research, I hope to learn, "Does incorporating the concept attainment strategy into the teaching of art concepts affect student performance (art products, quizzes, surveys)?" Your participation is completely voluntary.

You are being invited to take part in this research because you are enrolled as a student in Art I. The amount of time it will take you to complete this survey is ten minutes.

If you agree to take part in this survey, you will be asked questions that relate to how you think about art.

This research is overseen by the ECU Institutional Review Board. Therefore some of the IRB members or the IRB staff may need to review my research data. Therefore, your responses cannot be traced back to you by anyone, including me.

If you have questions about your rights when taking part in this research, call the Office of Research Integrity & Compliance (ORIC) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, call the Director of ORIC, at 252-744-1971.

You do not have to take part in this research, and you can stop at any time. If you decide you are willing to take part in this study, continue on with the survey.

Thank you for taking the time to participate in my research.

Sincerely,

Ms. Stephanie Burns, Principal Investigator

APPENDIX A8: DEBRIEFING STATEMENT

Debriefing Statement: The Impact of Inductive and Deductive Teaching Strategies in Secondary Art I Classes

The purpose of the research study that you recently participated in was to examine whether or not a teaching method (concept attainment) that was used to teach you art concepts had an impact on your learning (quiz), responses to learning (survey), and an art product (grid drawing using water color).

Analysis was completed using the scores from the quiz, responses to the surveys, and evaluation of your art product (grid drawing using water color).

Note: A summary of the results of the research will be shared in graph form. Opportunities will be provided for questions, comments, etc.

APPENDIX B: SELECTED INSTRUCTIONAL STRATEGIES CLASSIFICATION BY INDUCTIVE (I) AND/OR DEDUCTIVE (D) THINKING PATTERNS

Model	Theorist	I	D	Purpose
Advance Organizers	David Ausubel (many others)		✓	Increase ability to absorb information and organize it, especially in learning from lectures and readings
Anxiety reduction	David Rinn Joseph Wolpe John Masters	✓	✓	Control over aversive reactions; applications in treatment and self-treatment of avoidance and dysfunctional patterns of response
Awareness training	Fritz Perls	✓	✓	Increasing self-understanding, self-esteem, and capacity for exploration; development of interpersonal sensitivity and empathy
Classroom meeting	William Glasser	✓	✓	Development of self-understanding, responsibility to self and others
Cognitive growth	Jean Piaget Irving Sigel Constance Kamii Edmund Sullivan	✓	✓	Increase general intellectual development and adjust instruction to facilitate intellectual growth
Concept attainment	Jerome Bruner Fred Lighthall Bruce Joyce	✓		Learning concepts and studying strategies for attaining and applying them; building and testing hypotheses; based on Bruner's structured inquiry approach. Students are required to determine the attributes of a group or category already formed by the teacher
Conceptual systems	David Hunt	✓	✓	Increasing personal complexity and flexibility in processing information and interacting with others
Content area reading strategies	Doty, Cameron and Barton	✓	✓	Provides an algorithmic approach for structuring the reading process to assure students are reading to learn; approach centered on helping students develop a positive climate as it relates to approaching a reading passage by using textual features to analyze a text using word and graphic organizers individual and group accountability, interpersonal and small group skills, group processing

APPENDIX B: SELECTED INSTRUCTIONAL STRATEGIES CLASSIFICATION BY INDUCTIVE (I) AND/OR DEDUCTIVE (D) THINKING PATTERNS

Model	Theorist	I	D	Purpose
Cooperative learning	Lev Vygotsky John Dewey Johnson and Johnson	✓	✓	Teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. The five elements of cooperative learning are positive interdependence, face-to-face interaction
DBQs APPARTS	College Board		✓	Strategy developed to help students learn to analyze primary resource documents
Declarative lesson plan	A. Guidry		✓	A lesson model that responds to the need for history teachers to differentiate instructional strategies between declarative and procedural lessons; the declarative lesson model focuses on students being able to apply knowledge learned in teacher input through reflection and extend that knowledge to new instances through projection of content in synthesis activities
Direct instruction	Thomas Good Jere Brophy Wes Becker Siegfried Englemann Carl Bereiter		✓	Mastery of academic content and skills in a wide range of areas of study
Explicit Instruction	P. David Pearson & Margaret Gallagher Ruth Garner Gerald Duffy Laura Roehler and others		✓	Learning to be strategic reader
Film in the classroom	Kolb's learning cycle	✓		Allows teachers to stretch the learning experience of film in the classroom by having Students go through various stages leading to higher levels of understanding (i.e., ending with creation of own film)
Graphic organizers	Anderson et al	✓	✓	Provides outlet for organizing and examining relationships through use of three primary organizational structure—sequential, single main concept, and multiple concepts

APPENDIX B: SELECTED INSTRUCTIONAL STRATEGIES CLASSIFICATION BY INDUCTIVE (I) AND/OR DEDUCTIVE (D) THINKING PATTERNS

Model	Theorist	I	D	Purpose
Group investigation	John Dewey Herbert Thelen Shlomo Sharan Rachel Hertz-Lazarowitz	✓		Development of skills for participation in democratic process; simultaneously emphasizes social development, academic skills, and personal understanding
Historiograph-ical comparison	A. Guidry		✓	Allows students to look at two time periods simultaneously and in turn examine both historical content and context
HOTS questioning	Benjamin Bloom	✓	✓	Provides a tool for developing questions and assignments at increasingly complex levels of understanding
Inductive thinking	Hilda Taba	✓		Development of classification skills, hypotheses building and testing, and understanding of how to build conceptual understanding of content areas
Inquiry training	Richard Suchman Howard Jones	✓		Causal reasoning and understanding of how to collect information, build concepts, and build and test hypotheses
Interactive lectures	Stacy		✓	Three types of lectures can be used by social studies teachers to engage students as a "guide on the stage"; problem-centered lectures require students to use lecture material to answer some central problem question; comparative lectures require students to "assimilate and accommodate new material by placing it in constant opposition to other Material" (Stacy, 2009); thesis-driven lectures Have teachers presenting an argument at the very beginning and students seek to support or refute the argument
Jurisprudential inquiry	James Shaver Donald Oliver	✓		Analysis of policy issues through a jurisprudential framework; collection of data, analysis of value questions and positions, study personal beliefs
Laboratory method	National Training	✓		Understanding of group dynamics, leadership, understanding of personal styles

APPENDIX B: SELECTED INSTRUCTIONAL STRATEGIES CLASSIFICATION BY INDUCTIVE (I) AND/OR DEDUCTIVE (D) THINKING PATTERNS

Model	Theorist	I	D	Purpose
10:2 lecture	Ernst and Colthorpe		✓	Lecture model, rooted in research of the two theorists that has teachers lecturing for 10 minutes and then engaging students in partner/small group discussions about the just learned material for two minutes; research showed that poorest scoring students scored the best when this model was used
Mastery learning	Benjamin Bloom James Block		✓	Mastery of academic skills and content or all types
Mnemonics	Michael Pressley Joel Levin (and associated scholars)	✓	✓	Increase ability to acquire information, concepts, conceptual systems, and metacognitive control of information processing capability
Nondirective teaching	Carl Rogers	✓	✓	Building capacity for personal development, self-understanding, autonomy, and self-esteem
Paideia seminar	Alfred Adler		✓	Usage of three complementary instructional techniques to deepen student understanding of Information and to enhance engagement with eminal subject texts
Partners in learning	David Johnson Roger Johnson Elizabeth Cohen	✓	✓	Development of interdependent strategies of social interaction; understanding of self-other relationships and emotions
Picture word inductive	Emily Calhoun	✓		Learning to read and write, inquiry into language
Political cartoon analysis	National Archives	✓		Strategy and worksheet developed to help students learn to analyze political cartoons
Positive self-concepts	Abraham Maslow	✓	✓	Development of personal understanding and capacity for development
Problem-based learning	Lev Vygotsky Jean Piaget Jerome Bruner		✓	Use of ill structured problems, investigated through a structured learning process, to provide an outlet for experiential learning. Provides opportunity to have students act as social scientists and historians to not only learn content, but to also immerse themselves in the tools of the various social science disciplines

APPENDIX B: SELECTED INSTRUCTIONAL STRATEGIES CLASSIFICATION BY INDUCTIVE (I) AND/OR DEDUCTIVE (D) THINKING PATTERNS

Model	Theorist	I	D	Purpose
Programmed Learning	B. F. Skinner		✓	Mastery of skills, concepts, factual information
Role playing	Fannie Shaftel George Shaftel	✓	✓	Study of values and their role in social interactions; personal understanding of values and behavior
Scientific Inquiry	Joseph Schwab and many others	✓		Learning the research system of the academic disciplines—how knowledge is produced and Organized
Simulation	Many developers Carl Smith and Mary Foltz Smith provided guidance through 1960s when design had matured	✓	✓	Mastery of complex skills and concepts in a wide range of areas of study
Social inquiry	Byron Massialas Benjamin Cox	✓		Social problem solving through collective academic study and logical reasoning
Social learning	Albert Bandura Carl Thoresen Wes Becker	✓		The new management of behavior; learning new patterns of behavior; reducing phobic and other dysfunctional patterns, learning self-control
Structured social inquiry	Robert Slavin and colleagues	✓		Academic inquiry and social and personal development; cooperative strategies for approaching academic study
Synectics	William Gordon	✓	✓	Help break a set in problem solving and gain new perspectives on topic

Joyce, Weil, & Calhoun, 2015; Guidry, 2011

APPENDIX C: ART SURVEY/QUESTIONNAIRE

Student :Number _____

Age _____

Prior Art Lessons Yes No (Circle One)

Gender M F (Circle One)

Grade _____

The following questions are about course content. Please choose only one response for each item. Fill in the bubble.

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
1. The study of art is Interesting.	O	O	O	O	O
Comment_____					
2. I enjoy taking art class.	O	O	O	O	O
Comment_____					
3. I like to spend time learning about art, doing art, and talking about art.	O	O	O	O	O
Comment_____					
4. I have confidence In my art abilities.	O	O	O	O	O
Comment_____					

5. I can produce good art.	O	O	O	O	O

Comment_____

6. I am proud of my best work in art.	O	O	O	O	O

Comment_____

7. Art inspires me to do my best work.	O	O	O	O	O

Comment_____

8. Art projects challenge me.	O	O	O	O	O

Comment_____

9. Art encourages/ supports “out of “box thinking.	O	O	O	O	O

Comment_____

10. Art plays an active role in expanding my comfort zone.	O	O	O	O	O

Comment_____

11. I enjoy doing art on my own time, when not in school.	O	O	O	O	O

Comment_____

12. Art class requires me to closely notice and examine the world around me.	O	O	O	O	O

Comment_____

13. Art requires me to think critically.	O	O	O	O	O

Comment_____

14. Art is an important subject.	O	O	O	O	O

Comment_____

15. Art connects with other subjects (history, math, etc.)	O	O	O	O	O

Comment_____

16. I take risks as an art student.	O	O	O	O	O

Comment_____

APPENDIX D: QUIZ—WATERCOLOR VOCABULARY TEST

Name: Watercolor Vocabulary TestBlock:

Answer questions 1-10 by circling either T for true or F for false.

T or F 1. Transparent wash requires a small amount of paint.
T or F 2. Opaque wash dries lighter than transparent wash.
T or F 3. Watercolor pencils and regular colored pencils can be used the same way.
T or F 4. Bleeding requires wet paper before painting.
T or F 5. Tissue pick-up is only used to create a cloud texture.
T or F 6. Saran wrap should be placed flat on the painted area.
T or F 7. Salt should be put on paper before paint is added.
T or F 8. Watercolor paint should not be overlapped/layered.
T or F 9. Watercolor paint dries quickly.
T or F 10. Dried rubber cement can be removed by using pencil eraser.

Questions 11-20 are matching using the terms listed below.

_____ 11. Creates marks resembling grass or hair.
_____ 12. Technique using the other end of a paintbrush.
_____ 13. Uses both opaque wash and transparent wash.
_____ 14. Technique created by running finger over the end of the bristles.
_____ 15. Technique created by tapping end of brush.
_____ 16. Requires more paint than water.
_____ 17. Technique allowing colors to blend.
_____ 18. On numbers 18-20, what three techniques must be painted over?
_____ 19. Refer to question 18.
_____ 20. Refer to question 18.

A. Crayon resist
B. Dry brush
C. Glaze
D. Tape resist
E. Splattering
F. Rubber cement resist
G. Debossing
H. Dripping
I. Opaque wash
J. Bleeding

APPENDIX E: RUBRIC FOR GRADING AND PHOTOGRAPHS

APPENDIX E1: RUBRIC FOR GRADING STUDENT PRODUCT

3 Artists x 9 Watercolors

Name:_____

Class period:_____

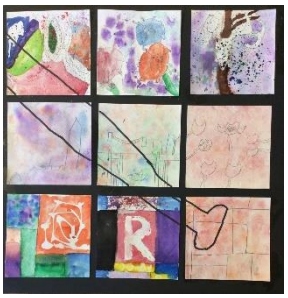
Category	4	3	2	1	Score
Design/Composition	Student applies Elements of Art and/or Principles of Design with great skill.	Student applies Elements of Art and/or Principles of Design with fair skill.	Student tries to apply Elements of Art and/or Principles of Design but the overall result is not adequate.	The student does not appear to be able to apply most Elements of Art and/or Principles of Design to his/her own work.	
Creativity	Student has taken the technique being studied and applied it in a way that is totally his/her own. The student's personality comes through.	Student has taken the technique being studied and has used source material as a starting place. The student's personality comes through in certain parts.	Student has copied idea from source material. There is little evidence of creativity, but the student has done the assignment.	Student has not made much attempt to show creativity.	
Time/Effort	Class time was used wisely. Much time and effort went into the planning and design. It is clear the student worked at school as well as outside of class.	Class time was used wisely. Student could have put in more time and effort.	Class time was not always used wisely, but/or student did do some additional work outside of class.	Class time was not used wisely and the student put in no additional effort.	
Use of materials	Student keeps materials and area clean without reminders. The student shows great consideration for the materials and other students.	Student typically cleans materials and work area at the end of the class without reminder. Student shows consideration for materials and other students.	Student cleans and takes care of materials if reminded. Shows some consideration for materials and other students.	Student misuses materials and/or does not clean materials or area when reminded. Shows little consideration for materials or other students.	
Follows Directions/ Requirements	Student followed all directions and met requirements.	Student followed directions and met majority of requirements.	Students lacked following directions and meeting requirements.	Student did not follow directions or meet requirements.	
Grade	Comments:	Comments:	Comments:	Comments:	Total out of 20:

APPENDIX E2: PHOTOGRAPHS OF STUDENT PRODUCTS, BLOCK ONE



APPENDIX E2: PHOTOGRAPHS OF STUDENT PRODUCTS, BLOCK FOUR













APPENDIX F: LESSON PLANS, UNIT PLAN, POWERPOINTS

APPENDIX F1: LESSON PLANS

Lesson Plan Template
2016-2017

Date: 11/7-11/11/16 Ms. Burns Course: Art 1 Block: 1st, 3rd, 4th

1.a - Create works of art that communicate original ideas using variety of media, techniques, and processes. **2.c** - Use appropriate visual art vocabulary related to technique and media as works of art are created. **2.d** - Utilize the elements of art and principles of design to create works of art that communicate ideas. **8.c** - Examine characteristics and purposes of works of art from a variety of time periods.	**Assessment Methods/Product** *(How will I know they have mastered the objective?)Teacher collaboration with students, rubrics, observation, class discussion, practicing on rough draft, producing final product, vocabulary quiz, worksheets.*	**Homework** **Journal #10 due Tuesday**	**Technology / Materials** *(Indicate the use of Promethean, video, lab, books, etc.) Please indicate specific days of cell phone use.* *Promethean used daily to display bell ringers and daily assignment. Classroom books used during bell ringers on Monday and Friday.This week students may at some point need to use their phones to look up mages for their project. If so, they are to ask me permission first and put it away when they are done. I also have a classroom laptop that they are allowed to look up images, research, or print from.*

Teacher and Student Procedures with Times - Must identify a minimum of 3 Instructional Transitions within the block *(FS = Focus Standard); Activity, differentiation, remediation, bellringer, exit ticket…*

Day	
Monday	**Bell Ringer:** Mandala Monday. Define: Split Complementary. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Comprehension) **Teacher will:** Assist students working on their Journal and/or help students in researching famous artists (using books and/or phone). **Students will:** Finish Journal #10 independently, due tomorrow. If done or get done during class, begin researching artists to base next project off of. *FS: Finish Journal #10 due tomorrow. Begin famous artist research.*
Tuesday	**Bell Ringer:** PictureIt Tuesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Application) **Teacher will:** Help students research artists in computer lab. **Students will:** Turn in Journal #10. Go to computer lab to research artists. Fill out thinking map worksheet for project, begin drawing rough draft/plan sheet. *FS: Journal #10 due. Continue famous artist research.*
Wednesday	**Bell Ringer:** WhatchamaDrawIt Wednesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Synthesis) **Teacher will:** Continued from Tuesday. **Students will:** Continue/finish rough draft/plan sheet. To be continued on Monday. *FS: Continue famous artist research/rough draft.*
Thursday	**Bell Ringer:** ThinkBlot Thursday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Analysis) **Teacher will:** Observe and monitor as students start American Gothic assignment. Collect all work at end of class. **Students will:** Work on American Gothic assignment. *FS: (Substitute) American Gothic assignment*
Friday	**Bell Ringer:** Famous Artist Friday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Evaluation) **Teacher Will:** Observe and monitor as students create journal page option 2 only. **Students will:** Create Journal #11 due Tuesday. Turn in Monday-Friday Bell Ringers. *FS:(Substitute) Create Journal #11 due Tuesday 11/15. Bell Ringers due. If done, "Squaring Up" assignment.*

Teacher Reflections

The project students finished last week is a stippling selfie and I am very pleased with how they turned out. This week students will be researching artists for their next project involving famous artists and watercolor paint. If students get done with work early they have the option to work on unfinished bell ringers, journal pages, unfinished portfolios, extra credit, and/or any activity in drawing books.

Lesson Plan Template
2016-2017

Date: 11/14-11/18/16 Ms. Burns Course: Art 1 Block: 1st, 3rd, 4th

1.a - Create works of art that communicate original ideas using variety of media, techniques, and processes. **2.c** - Use appropriate visual art vocabulary related to technique and media as works of art are created. **2.d** - Utilize the elements of art and principles of design to create works of art that communicate ideas. **8.c** - Examine characteristics and purposes of works of art from a variety of time periods.	**Assessment Methods/Product** *(How will I know they have mastered the objective?)Teacher collaboration with students, rubrics, observation, class discussion, practicing on rough draft, producing final product, vocabulary quiz, worksheets.*	**Homework** **Journal #11 due Tuesday. Any additional research needed for 3 Artists x 9 Watercolors project.**	**Technology / Materials** *(Indicate the use of Promethean, video, lab, books, etc.) Please indicate specific days of cell phone use.* *Promethean used daily to display bell ringers and daily assignment. Classroom books used during bell ringers on Monday and Friday.This week students may at some point need to use their phones to look up mages for their project. If so, they are to ask me permission first and put it away when they are done. I also have a classroom laptop that they are allowed to look up images, research, or print from.*

Teacher and Student Procedures with Times - Must identify a minimum of 3 Instructional Transitions within the block
(FS = Focus Standard); Activity, differentiation, remediation, bellringer, exit ticket…

Day	
Monday	**Bell Ringer:** Mandala Monday. Define: Full Color Wheel (primary, secondary, tertiary). ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Comprehension) **Teacher will:** Assist students working on their Journal and/or help students with their rough draft. Restate key points for this project so far. **Students will:** Finish Journal #11 independently, due tomorrow. If done or get done during class, begin/continue 3 Artists x 9 Watercolors rough draft. *FS: Finish Journal #11 due tomorrow. Begin/continue 3 Artists x 9 Watercolors rough draft.*
Tuesday	**Bell Ringer:** PictureIt Tuesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Application) **Teacher will:** Assist students as they combine famous artworks into their own drawing. **Students will:** Turn in Journal #11. Continue rough draft. When finished and approved, complete grid worksheet before starting on final paper. *FS: Journal #11 due. Continue 3 Artists x 9 Watercolors project.*
Wednesday	**Bell Ringer:** WhatchamaDrawIt Wednesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Synthesis) **Teacher will:** Continued from Tuesday. **Students will:** Continue/finish rough draft/plan sheet. Once complete and approved, complete grid worksheet before starting on final paper. *FS: Continue 3 Artists x 9 Watercolors project.*
Thursday	**Bell Ringer:** ThinkBlot Thursday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Analysis) **Teacher will:** Give students watercolor pre-test. Continued from Wednesday. **Students will:** Continued from Wednesday. Should be drawing on final paper. *FS: Continue 3 Artists x 9 Watercolors project.*
Friday	**Bell Ringer:** Famous Artist Friday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Evaluation) **Teacher Will:** Observe and monitor as students create last journal page. **Students will:** Create Journal #12 due Tuesday. Turn in Monday-Friday Bell Ringers. *FS:Create Journal #12 due Tuesday 12/6. Bell Ringers due.*

Teacher Reflections

Last week students began researching artists for their final big project involving famous artists and watercolor paint. So far they have researched 3 famous artists that interest them and are incorporating them into a drawing of their own. If students get done with work early they have the option to work on unfinished bell ringers, journal pages, unfinished portfolios, extra credit, and/or any activity in drawing books.

Lesson Plan Template
2016-2017

Date: 11/28/16-12/2/16 Ms. Burns Course: Art 1 Block: 1st, 3rd, 4th

1.a - Create works of art that communicate original ideas using variety of media, techniques, and processes. **2.c** - Use appropriate visual art vocabulary related to technique and media as works of art are created. **2.d** - Utilize the elements of art and principles of design to create works of art that communicate ideas. **8.c** - Examine characteristics and purposes of works of art from a variety of time periods.	**Assessment Methods/Product** *(How will I know they have mastered the objective?)Teacher collaboration with students, rubrics, observation, class discussion, practicing on rough draft, producing final product, vocabulary quiz, worksheets.*	**Homework** **Journal #12 due Tuesday 12/6. Any additional research needed for 3 Artists x 9 Watercolors project.**	**Technology / Materials** *(Indicate the use of Promethean, video, lab, books, etc.) Please indicate specific days of cell phone use.* *Promethean used daily to display bell ringers and daily assignment. Classroom books used during bell ringers on Monday and Friday.This week students may at some point need to use their phones to look up mages for their project. If so, they are to ask me permission first and put it away when they are done. I also have a classroom laptop that they are allowed to look up images, research, or print from.*

Teacher and Student Procedures with Times - Must identify a minimum of 3 Instructional Transitions within the block *(FS = Focus Standard); Activity, differentiation, remediation, bellringer, exit ticket…*

Day	
Monday	**Bell Ringer:** Watercolor Pre-Quiz. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Knowledge) **Teacher will:** Give students watercolor pre-quiz. Introduce 15 watercolor techniques using PowerPoint for definitions. Demonstrate each techqniue. Discuss how they will incorporate these into 3 Artists x 9 Watercolors project. **Students will:** Listen as I do through watercolor vacabulary. Observe as I demonstrate techniques. Demonstrate themselves creating samples of each technique. *FS: Watercolor Techniques*
Tuesday	**Bell Ringer:** PictureIt Tuesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Application) **Teacher will:** Review techniques learned yesterday by playing a group identification game. Assist students if they didn't finish techniques yesterday. **Students will:** Finish watercolor techniques. Return to rough draft and plan where techniques will be placed. Begin on final paper when ready. *FS: Continue 3 Artists x 9 Watercolors project.*
Wednesday	**Bell Ringer:** WhatchamaDrawIt Wednesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Synthesis) **Teacher will:** Assist students on final paper. **Students will:** Continue/finish rough draft/plan sheet. Once complete and approved, start on final paper. *FS: Continue 3 Artists x 9 Watercolors project.*
Thursday	**Bell Ringer:** ThinkBlot Thursday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Analysis) **Teacher will:** Continued from Wednesday. **Students will:** Continued from Wednesday. *FS: Continue 3 Artists x 9 Watercolors project.*
Friday	**Bell Ringer:** Famous Artist Friday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Evaluation) **Teacher Will:** Observe and monitor as students create last journal page. **Students will:** Create Journal #12 due Tuesday. Turn in Tuesday-Friday Bell Ringers. Continue 3 Artists x 3 Watercolors if finished with journal. *FS:Create Journal #12 due Tuesday 12/6. Bell Ringers due.*

Teacher Reflections

Last week students began researching artists for their final big project involving famous artists and watercolor paint. So far they have researched 3 famous artists that interest them and are incorporating them into a drawing of their own. If students get done with work early they have the option to work on unfinished bell ringers, journal pages, unfinished portfolios, extra credit, and/or any activity in drawing books.

Lesson Plan Template
2016-2017

Date: 12/5/16-12/9/16 Ms. Burns Course: Art 1 Block: 1st, 3rd, 4th

1.a - Create works of art that communicate original ideas using variety of media, techniques, and processes. **2.c** - Use appropriate visual art vocabulary related to technique and media as works of art are created. **2.d** - Utilize the elements of art and principles of design to create works of art that communicate ideas. **8.c** - Examine characteristics and purposes of works of art from a variety of time period. **3.c** - Understand that effects resulting from the use of media, techniques, and processes are factors that affect visual perception.	**Assessment Methods/Product** *(How will I know they have mastered the objective?)Teacher collaboration with students, rubrics, observation, class discussion, practicing on rough draft, producing final product, vocabulary quiz, worksheets.*	**Homework** **Journal #12 due Tuesday.**	**Technology / Materials** *(Indicate the use of Promethean, video, lab, books, etc.) Please indicate specific days of cell phone use.* *Promethean used daily to display bell ringers and daily assignment. Classroom books used during bell ringers on Monday and Friday.This week students may at some point need to use their phones to look up mages for their project. If so, they are to ask me permission first and put it away when they are done. I also have a classroom laptop that they are allowed to look up images, research, or print from.*

Teacher and Student Procedures with Times - Must identify a minimum of 3 Instructional Transitions within the block *(FS = Focus Standard); Activity, differentiation, remediation, bellringer, exit ticket…*

Day	
Monday	**Bell Ringer:** Mandala Monday: Favorite colors/free color (Bloom's Taxonomy/Higher Order Thinking Skill - Knowledge) **Teacher will:** Review watercolor vocabulary with class participation. Observe as students continue working on their project. Assist anyone needing help or suggestions for improvement. **Students will:** Listen and participate as I review watercolor vocabulary. Continue working on 3 Artists x 9 Watercolors project. *FS: Continue 3 Artists x 9 Watercolors project.*
Tuesday	**Bell Ringer:** PictureIt Tuesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Application) **Teacher will:** Observe as students continue working on their project. Assist anyone needing help or suggestions for improvement. **Students will:** Turn in Journal #12. Continue working on 3 Artists x 9 Watercolors project. *FS: Continue 3 Artists x 9 Watercolors project. Journal #12 due.*
Wednesday	**Bell Ringer:** WhatchamaDrawIt Wednesday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Synthesis) **Teacher will:** Continued from Tuesday. **Students will:** Continued from Tuesday. *FS: Continue 3 Artists x 9 Watercolors project.*
Thursday	**Bell Ringer:** ThinkBlot Thursday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Analysis) **Teacher will:** Continued from Wednesday. **Students will:** Continued from Wednesday. *FS: Continue 3 Artists x 9 Watercolors project.*
Friday	**Bell Ringer:** Famous Artist Friday. ACT Skill (Bloom's Taxonomy/Higher Order Thinking Skill - Evaluation) **Teacher Will:** Make any final suggestions towards project due. **Students will:** Turn in Monday-Friday Bell Ringers. Continue 3 Artists x 3 Watercolors if finished not already finished. If already finished, create journal covers due next Tuesday 12/13. *FS:Bell Ringers due. 3 Artists x 9 Watercolors due. Begin Journal Covers.*

Teacher Reflections

They are finishing up the final project of the semester. After continuing from last week and learning 15 watercolor techniques, students have made me aware that this is the hardest project so far but for the majority it is their favorite because they get to experiment with techniques and incorporate famous artworks. If students get done with work early they have the option to work on unfinished bell ringers, journal pages, unfinished portfolios, extra credit, and/or any activity in drawing books.

APPENDIX F2: UNIT PLAN

Lesson Plans—Unit with Detailed Lesson Plans

S. Rayanne Burns
Lesson Plan/Unit
D'Iberville High School

A. Introduction

Topic: 3 Artists x 9 Watercolors
Grade Level: Art 1
Time Frame: 10, 90 minute class periods

B. Rationale and Overview

Rationale: The purpose of this unit is to not only have student's study three famous artists and several different watercolor techniques but also gain an understanding of both. The unit is designed to develop students' drawing and painting skills through self-expression. Students will be able to apply basic elements and principles of art into one composition, paying specific attention to watercolor techniques, famous artists, and guidelines to follow. This unit will address the Mississippi Department of Education Competencies and Objectives for Visual Art. This unit will integrate art, but also reading, science, and history. The lessons in the unit are intended to enhance each student's own level of creativity and to help each child recognize his/her individuality and uniqueness. The lessons are designed to accommodate every type of child. I chose to do this topic because I personally admire famous artists and watercolor paintings. I think both allow students to experience new and exciting art skills as well as think out side of the box.

Overview: This unit will be taught using many different strategies and materials. Instruction will include demonstrations, lecture with PowerPoint presentation, visual aids including the SmartBoard, gross and fine motor skill use, creative thinking, problem solving, and other art materials. The materials for the lessons in this unit will be prepared by the teacher or given by the art department. Students will not only benefit from learning about famous artists and different watercolor techniques but also have the opportunity to creatively combine the two. These art techniques will be practiced once students research three famous artists of their choice and practice each watercolor technique. Once students are familiar with both, they will create their own drawing with specific guidelines and demonstrate nine of the fifteen watercolor painting techniques. Students will be asked to incorporate their choice of watercolor techniques, as well as a variety of lines, shapes, 3-D forms, overlapping images, big and small images, curved and straight images, and all the elements of art (line, shape, color, texture, value, form, and space). Students will create an overall thoughtful, imaginative, and information packed piece of artwork.

C. Outline

Day 1:Learn about watercolor techniques and create sample of each.

⇒ Concept Attainment group (Block 4) is shown examples prior to learning/watching techniques being demonstrated.

⇒ Regular group (Block 1) starts with watching techniques being demonstrated first.

Day 2: Finish samples; research famous artists; begin to sketch rough draft.

Day 3: Continue rough draft; pick and plan out 9 of the 15 techniques.

Day 4: Begin drawing on final paper.

Day 5: Continue/finish drawing on final paper. Begin painting: opaque, transparent, bleeding/wet on wet.

Day 6: Continue painting: glaze, tissue pick-up, saran wrap.

Day 7: Continue painting: crayon resist, rubber cement resist, salt, watercolor pencil.

Day 8: Continue painting: tape resist, alcohol, debossing, dry brush, splattering/dripping.

Day 9: Continue painting; finish any areas remaining and/or touch ups.

Day 10: Outline all hard edges using Sharpie; remove from cardboard backing.

D. MDE Competencies & Objectives

Essential Standards that apply throughout unit:

1. Apply proficient skills and craftsmanship in selecting and using various media, techniques, and processes to create original expressive works of art.

a. Create works of art that communicate original ideas using a variety of media, techniques and processes.

b. Know how the selection of media, technique, or process communicates the overall idea in original works and works of others.

c. Understand that there are various ways to organize, compose, or design works of art.

d. Practice safety and conservation in the use of tools, materials, and equipment in the creation of works of art.

2. Understand how to select and use the elements of art and principles of design applied through various media, techniques, and processes related to the communication of meaning.

a. Integrate visual, spatial, and temporal concepts with subjects, themes, symbols and ideas to improve communication of intended meaning.

c. Use appropriate visual art vocabulary related to technique and media as works of art are created.

3. Understand how media, techniques, and processes create effects that evoke a range of responses.

a. Understand that visual effects produced through media, techniques and processes evoke a range of responses (e.g., dread, hope, despair, joy, pleasure, pain).

c. Recognize that the choice of media, techniques, and processes results from the artist's thinking about how best to achieve specific effects.

4. Utilize perceptual skills and apply visual arts vocabulary to make informed judgments while creating and studying works of art.

a. Effectively use visual arts vocabulary when critiquing their own works or those of others through the processes of speaking or writing.

c. Utilize the visual and organizational components of art and design while creating works of art.

5. Understand that a wide range of critical analysis theories exist and provide valid methods for studying the characteristics of works of art and design.

b. Recognize different aesthetic theories while examining works of art.

c. Identify different ways the visual arts provide unique modes for expressing ideas, actions, and emotions.

8. Analyze how factors of time and the visual arts influence each other.

b. Describe the function and explore meaning of specific works of art within various time periods.

c. Examine characteristics and purposes of works of art from a variety of time periods.

11. Integrate visual arts concepts and skills with knowledge in other subject areas to provide meaningful tools for everyday life.

Unit Goals:

Students learn and research famous artists.
Students learn about fifteen watercolor techniques.
Students experiment with each watercolor technique.
Students learn a different style of creating artwork.
Students learn to focus on self-expression through the creation of art.
Students learn the importance of planning and sketching rough drafts.
Students learn to incorporate famous artists and watercolor painting into one collaborative piece of work.
Students follow guidelines/requirements.
Students work individually to create one final product demonstrating knowledge of styles and techniques.

E. Detailed Lesson Plans

3 Artists x 9 Watercolors

Visual Arts 1

Day 1

Materials: PowerPoint, Watercolor example, 4" x 24" watercolor sample paper, watercolor paint, paintbrushes, salt, saran wrap, tissue, watercolor pencils, alcohol, rubber cement, crayons, water cup, painters tape, pencil

Vocabulary: opaque wash, transparent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap, crayon resist, salt, watercolor pencils, tape resist, rubber cement resist, debossing, dry brush, alcohol, splattering/dripping

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1. **Focus and Review:**
   ⇒ Concept Attainment group (Block 4) is shown examples prior to learning/watching techniques being demonstrated.
   ⇒ Regular group (Block 1) starts with watching techniques being demonstrated first.

Draw students' attention by showing teacher example of famous artist watercolor artwork. Have students start a class discussion by sharing different aspects of the artwork they notice/observe.

2. **Statement of Objective:** You will know 15 different watercolor techniques. You will learn about famous artists.

3. **Teacher Input:** Introduce watercolor by showing example of a finished product. Have students' share with class different aspects they notice/observe. Once class has nothing more to contribute to discussion, introduce 15 watercolor techniques. Show vocabulary list of techniques and go through each definition (PowerPoint). Show previously made watercolor technique samples. Introduce terms and define. Show examples of famous artwork using Google. Show examples of famous art combined with watercolor techniques. Go over guidelines. Ask students to gather and observe demonstrations of each watercolor technique. Materials previously set up on tables for students. Ask if there are any questions.

4. **Guided Practice/Processing:** Have students create their own watercolor technique sample using all 15 techniques. Label each technique before painting. Tell students the order in which they are going to be using the materials and explain why. Circulate among students as they create sample of each technique.

5. **Independent Practice/Processing:** Students will spend the rest of class creating a sample of each technique and continue until all 15 have been experimented with on their sample paper.

6. **Closure:** Explain to students the purpose of this project and how they will be incorporating 9 (of their choice) of the 15 techniques and combining those with their own design incorporating 3 famous artists. Ask students to tell me the techniques they learned as well as the difference/significance of each.

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1. **Assessment:** Listen and observe as students have guided class discussion on what they notice/observe about finished watercolor painting. Monitor students as they create samples of each technique. Listen as students are asked questions about the differences in techniques. Listen to responses related to famous artists and what defines them.

2. **Adaptations/Accommodations:** Examples, PowerPoint, Google images, handout, and demonstrations will be helpful to visual learners. Class discussion, questions, and demonstration will be helpful to audio learners. Using hands-on materials and creating samples will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors

Visual Arts 1

Day 2

Materials: PowerPoint, watercolor techniques sample, Watercolor example, 4" x 24" watercolor sample paper, watercolor paint, paintbrushes, salt, saran wrap, alcohol, rubber cement, tissue, watercolor pencils, crayons, water cup, painters tape, alcohol, rubber cement, pencil, laptop, 8.5" x11" sketch paper

Vocabulary: opaque wash, transparent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap, crayon resist, salt, watercolor pencils, tape resist, debossing, alcohol, rubber cement resist, dry brush, splattering/dripping

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1. **Focus and Review:** Draw students' attention by reviewing the 15 watercolor techniques by memory.

2. **Statement of Objective:** You will demonstrate 15 watercolor techniques. You will research 3 famous artists. You will create your own design incorporating your chosen three.

3. **Teacher Input:** Reiterate the 15 watercolor techniques previously learned by having class review what they are by memory. Demonstrate any techniques that need to be seen again. Pass out materials for students to finish all 15 watercolor technique samples. Reiterate the guidelines for project. Pass out sketch paper for students to create rough draft. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they finish their watercolor technique samples and assist if needed. When complete, have student's research famous artists on their laptops to get ideas and brainstorm. Circulate among students as they begin to sketch ideas for their drawing.

5. **Independent Practice/Processing:** Students will continue to research and draw ideas until rough draft is complete. Rough draft must be approved before starting on final paper.

6. **Closure:** Have students share with class anything they learned from researching famous artists. Discuss the importance of self-expression. Discuss the difference between what the artist thinks/sees and what the viewer thinks/sees. Continue with rough draft next class period.

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1. **Assessment:** Listen as students review the 15 watercolor techniques by memory. Observe as students finish watercolor technique samples. Monitor students as they research artists

and begin sketching. Listen as students share any information learned while researching artists. Listen and observe as self-expression is being discussed.

2. **Adaptations/Accommodations:** PowerPoint, examples, laptops, Google, and demonstrations will be helpful to visual learners. Discussions and review will be helpful to audio learners. Using hands-on art materials and laptops will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 3

Materials: PowerPoint, pencil, laptop, 8.5" x 11" sketch paper, watercolor sample, paper, guidelines

Vocabulary: opaque wash, transparent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap, crayon resist, salt, watercolor pencils, tape resist, debossing, alcohol, rubber cement resist, dry brush, splattering/dripping

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1. **Focus and Review:** Draw students' attention by discussing key words that they would use to describe famous artists and/or their artwork.

2. **Statement of Objective:** You will create your own design. You will learn to incorporate famous artists style with watercolor techniques.

3. **Teacher Input:** Lead class discussion using words that describe art. Hand back rough draft sketches. Hand back watercolor technique samples. Go through each one and discuss which techniques are useful for large areas and small areas. Explain that they have their choice of picking 9 out of the 15 techniques to include in their watercolor painting. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they continue/finish their rough draft. Assist if anyone needs helping with the planning of which techniques would be best according to their rough draft.

5. **Independent Practice/Processing:** Students should spend the rest of the class period to completely finish their rough draft and technique planning.

6. **Closure:** Review with students the Elements of Art and the Principles of Design and how they affect the outcome of artwork. Discuss how colors schemes and themes can be used in artwork. Reiterate self-expression and the impact it has on art.

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1. **Assessment:** Listen as students discuss key words that describe what they have learned about abstract art so far. Observe as students listen to discussion about which techniques are best for certain areas. Monitor as students plan what techniques they want to demonstrate and where on their drawing they will be using them. Monitor students as they finish their rough draft and need approval for final paper.

2. **Adaptations/Accommodations:** PowerPoint, laptops, guidelines, rough draft, and examples will be helpful to visual learners. Discussions and lecture will be helpful to

audio learners. Using hands-on art materials and laptops will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 4

Materials: PowerPoint, 12” x 12” watercolor paper, 15” x 18” piece of cardboard backing (watercolor paper already taped on), pencil, 8.5” x 11” sketch paper, watercolor sample paper, guidelines

Vocabulary: watercolor techniques

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1. **Focus and Review:** Draw students’ attention by showing previously cut watercolor paper and cardboard backing they will be using the rest of the project.

2. **Statement of Objective:** You will begin drawing your design in preparation for painting.

3. **Teacher Input:** Cut 12” x 12” watercolor paper for each student. Using painter’s tape, previously prepare paper by taping watercolor paper onto 15” x 18” cardboard backing. Explain to students that by taping the watercolor paper to a backing, it helps keep the paper from curling up while painting. Explain that once their rough draft is approved, they will receive their final paper and can start re-sketching their design. Explain to students that they will need to take into consideration that their final paper is bigger than their rough draft paper. Therefore, they will need to make some adjustments to make their sketch fit on final paper. Ask if there are any questions.

4. **Guided Practice/Processing:** Students will begin drawing on final paper once rough draft is approved. All 9 of the 15 techniques must be included as well as the requirements for the design. Circulate among students as they begin to transfer their sketch onto their final paper.

5. **Independent Practice/Processing:** Students will continue to redraw their design on final paper.

6. **Closure:** Have short discussion with students about any changes they have made or have been told to make for their final drawing and the reasons why. Explain that this is important because others can learn from it and possibly get ideas or think of changes they might should make to improve their drawing/painting.

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1. **Assessment:** Observe as students make any adjustments to their drawing. Listen as students explain any changes made and why. Monitor student’s progress on their final sketch.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, and examples will be helpful to visual learners. Discussion and lecture will be helpful to audio learners. Using hands-on materials will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 5-6

Materials: PowerPoint, 12" x 12" watercolor paper, 8.5" x 11" sketch paper, watercolor paint, paintbrush, water cup, tissue, saran wrap

Vocabulary: opaque wash, translucent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap

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1. **Focus and Review:** Draw students' attention by having students volunteer their drawing to be discussed. As a class, positively critique what works well and what could be improved. Draw students' attention by reviewing the techniques: opaque wash, translucent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap.

2. **Statement of Objective:** You will finish drawing your design in preparation to begin painting. You will begin painting your design, only focusing on the techniques: opaque wash, translucent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap.

3. **Teacher Input:** Introduce critiquing artwork by having students volunteer their drawing to be analyzed by class. Engage students in being able to recognize parts of artwork that work well and parts of that could be improved and how. Make sure students are incorporating all of the Elements of Art as well as the other requirements for the project. Introduce starting a watercolor painting by explaining to students that of the 9 techniques they chose, they will only be allowed to do three during this class period. Explain that the three techniques they will be doing are opaque, transparent, and bleeding/wet-on wet. Explain that only these will be done today because they need to fill in the biggest areas of their drawing and these techniques are the most appropriate for large areas out of the 15 techniques to choose from. Once they are done with these techniques, they may start on: glaze, tissue pick-up/lifting, saran wrap Demonstrate filling in the large areas of a drawing using these techniques before students get started. Discuss layering and adding details in later on. Reiterate that students need to follow their rough draft-planning sheet. If they want/need to make changes they need to be approved so that all requirements are met. Pass out materials. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they start painting. Assist anyone who needs help; make sure students are following their rough draft. Make sure students are only doing the first three techniques during this class period. The next techniques will be done after.

5. **Independent Practice/Processing:** Students will spend the remainder of this class period only using the three techniques: opaque, transparent, bleeding/wet-on-wet. Students will continue with: glaze, tissue pick-up/lifting, saran wrap

6. **Closure:** Have students volunteer their drawing to be critiqued that didn't at the beginning of class and want to once they have finished. Go over techniques to be used during next class period: glaze, tissue pick-up/lifting, and saran wrap. Have students explain why they think those are the next techniques they will be allowed to do.

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1. **Assessment:** Listen as students critique each other's artwork. Observe students as they finish their drawing. Listen as students review opaque wash, translucent wash, bleeding/wet on wet, glaze, tissue pick-up/lifting, saran wrap. Monitor/observe as students begin painting. Listen as students review vocabulary as well as purpose of order in which they are doing techniques.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, examples, and demonstration will be helpful to visual learners. Discussions, lecture, and demonstration will be helpful to audio learners. Using hands-on materials and beginning to paint will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 7

Materials: PowerPoint, 12" x 12" watercolor paper, 8.5" x 11" sketch paper,watercolor paint, paintbrush, water cup, crayons, salt, watercolor pencils

Vocabulary: crayon resist, rubber cement resist, salt, watercolor pencils

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1. **Focus and Review:** Draw students' attention by reviewing the techniques: crayon resist, rubber cement resist, salt, and watercolor pencils.

2. **Statement of Objective:** You will continue painting your design, only focusing on the techniques: crayon resist, rubber cement resist, salt, and watercolor pencils.

3. **Teacher Input:** Introduce continuing a watercolor painting by explaining to students that of the 9 techniques they chose, they will only be allowed to do three more during this class period. Explain that the three techniques they will be doing are crayon resist, rubber cement resist, salt, and watercolor pencils. Explain that only these will be done today because they need to begin adding details in areas of their drawing and these techniques are the most appropriate for those desired areas out of the 15 techniques to choose from. Demonstrate adding details in areas of a drawing using these techniques before students get started. Reiterate how layering and adding details enhance artwork. Reiterate that students need to follow their rough draft-planning sheet. If they want/need to make changes they need to be approved so that all requirements are met. Pass out materials. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they start painting. Assist anyone who needs help; make sure students are following their rough draft. Make sure students are only doing the next three techniques during this class period.

5. **Independent Practice/Processing:** Students will spend the remainder of this class period only using the three techniques: crayon resist, rubber cement resist, salt, watercolor pencil.

6. **Closure:** Go over techniques to be used during next class period: tape resist, debossing, alcohol, dry brush, and splattering/dripping. Have students explain why they think those are the next techniques they will be allowed to do.

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1. **Assessment:** Listen as students review glaze, crayon resist, rubber cement resist, salt, and watercolor pencil. Monitor/observe as students continue painting. Listen as students review tape resist, debossing, alcohol, dry brush, and splattering/dripping, as well as purpose of order in which they are doing techniques.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, examples, and demonstration will be helpful to visual learners. Discussions, lecture, and demonstration will be helpful to audio learners. Using hands-on materials and continuing to paint will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 8

Materials: PowerPoint, 12” x 12” watercolor paper, 8.5” x 11” sketch paper, watercolor paint, paintbrush, water cup, painters tape

Vocabulary: tape resist, debossing, alcohol, dry brush, splattering/dripping

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1. **Focus and Review:** Draw students’ attention by reviewing the techniques: tape resist, debossing, alcohol, dry brush, and splattering/dripping.

2. **Statement of Objective:** You will continue painting your design, only focusing on the techniques: tape resist, debossing, alcohol, dry brush, and splattering/dripping.

3. **Teacher Input:** Introduce continuing a watercolor painting by explaining to students that of the 9 techniques they chose, they will only be allowed to do the remaining four during this class period. Explain that the four techniques they will be doing are tape resist, debossing, dry brush, and splattering/dripping. Explain that only these will be done today because they need to continue layering and adding details in areas of their drawing and these techniques are the most appropriate for those desired areas out of the 15 techniques to choose from. Demonstrate layering and adding details in areas of a drawing using these techniques before students get started. Reiterate how layering and adding details enhance artwork. Reiterate that students need to follow their rough draft-planning sheet. If they want/need to make changes they need to be approved so that all requirements are met. Pass out materials. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they start painting. Assist anyone who needs help; make sure students are following their rough draft. Make sure students are only doing the remaining four techniques during this class period.

5. **Independent Practice/Processing:** Students will spend the remainder of this class period only using the three techniques: tape resist, debossing, dry brush, and splattering/dripping.

6. **Closure:** Remind students that next class period will be their final day to paint any remaining areas and/or touch ups.

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1. **Assessment:** Listen as students review tapes resist, debossing, dry brush, and splattering/dripping. Monitor/observe as students continue painting.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, examples, and demonstration will be helpful to visual learners. Discussions, lecture, and demonstration will be helpful to audio learners. Using hands-on materials and continuing to paint will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 9

Materials: PowerPoint, 12" x 12" watercolor paper, 8.5" x 11" sketch paper, watercolor paint, paintbrush, water cup, tissue, saran wrap, crayons, salt, watercolor pencils, painters tape

Vocabulary: opaque wash, transparent wash, bleeding/wet on wet, glaze,tissue pick-up/lifting, saran wrap, crayon resist, rubber cement resist, salt, watercolor pencils, tape resist, debossing, alcohol, dry brush, splattering/dripping

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1. **Focus and Review:** Draw students' attention by reviewing all of the techniques they have learned and demonstrated.

2. **Statement of Objective:** You will finish painting your design, using all of the techniques used to complete any remaining areas and/or touch ups.

3. **Teacher Input:** Introduce completing a watercolor painting by explaining to students that of the 9 techniques they chose, they will be allowed to do all of the techniques used during this class period to finish any remaining areas and/or touch ups Explain that the techniques being done today are to finish layering and adding details in areas of their drawing. Demonstrate completing areas of a drawing and when to know their stopping point before students get started. Explain how touch ups can dramatically change the appearance of artwork. Reiterate how layering and adding details enhance artwork. Reiterate that students need to follow their rough draft-planning sheet. If they want/need to make changes they need to be approved so that all requirements are met. Pass out materials. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they start painting. Assist anyone who needs help; make sure students are following their rough draft. Make sure students are only doing the remaining areas of their painting using any technique previously used as well as any touch ups needed.

5. **Independent Practice/Processing:** Students will spend the remainder of this class period finishing any watercolor techniques needed on their design as well as any touching up areas that can be improved.

6. **Closure:** Have a short discussion on outlining.

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1. **Assessment:** Listen as students review all of the watercolor techniques. Monitor/observe as students finish painting.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, examples, and demonstration will be helpful to visual learners. Discussions, lecture, and demonstration will be helpful to audio learners. Using hands-on materials and continuing to paint will be helpful to kinesthetic learners.

3 Artists x 9 Watercolors
Visual Arts 1
Day 10

Materials: PowerPoint, 12" x 12" watercolor paper, Sharpie

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1. **Focus and Review:** Draw students' attention by showing an example of an almost finished piece of artwork and outlining the hard edges in Sharpie to show students the difference a clean edge will make on their artwork.

2. **Statement of Objective:** You will completely finish your painting by outlining all hard edges and removing tape and cardboard backing.

3. **Teacher Input:** Introduce a technique used to completely finish a piece of artwork by showing an example of an almost finished design and outlining the hard edges in Sharpie to show students the difference a clean edge will make on their artwork. Explain that the hard edges they make with the Sharpie and the hard edges that will appear when they remove the tape and backing from their artwork will be the final step on this project. Demonstrate removing tape and cardboard backing. Explain how these final steps can dramatically change the appearance of artwork. Reiterate how layering and details enhance artwork. Reiterate that students need to follow their rough draft-planning sheet. Pass out materials. Ask if there are any questions.

4. **Guided Practice/Processing:** Circulate among students as they begin to outline. Assist anyone who needs help. Make sure students are only outlining hard edges of their painting because some areas created with watercolor paint will not have an edge.

5. **Independent Practice/Processing:** Students will spend the remainder of this class period to completely finish their watercolor painting.

6. **Closure:** Have class discussion about parts of this project they enjoyed/didn't enjoy, found difficult/found too easy. Review the meaning of art and their opinion of it after creating their own artwork reflecting famous artists. Have students discuss which watercolor technique(s) they liked best, found to be more difficult than they originally thought, which one they would remove from their painting if they could, etc. Students will turn in their watercolor technique samples, rough draft, and final draft.

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1. **Assessment:** Listen as students review the watercolor techniques, famous artists, and their opinion of the project. Monitor/observe as students finish project.

2. **Adaptations/Accommodations:** PowerPoint, rough draft, final draft, examples, and demonstration will be helpful to visual learners. Discussions, lecture, and demonstration will be helpful to audio learners. Using hands-on materials and continuing to paint will be helpful to kinesthetic learners.

F. Culminating Activity/Unit Evaluation

Culminating Activity: Students will have a final critique on their abstract watercolor painting. Each student will be asked to display their finished piece of art in front of the class. The class will split up into small discussion groups (2-3 students) and together come up with one thing they really like, one thing they noticed improvement on from first critique, and one thing they still think could be taken to the next level/improved even further. Each group will get a turn to critique each classmate. This will help students see other viewpoints and receive feedback from individuals other than the teacher.

Unit Evaluation: Students will be graded on individual artwork they have created over the 10 class periods, including watercolor samples (participation), rough draft sketch (participation), and their final product (rubric). Student's final artwork will be graded using a set rubric (20 points total and converted to ___ out of 100 points). Grade will be determined by design/composition, creativity, time/effort, use of materials, and follows directions/requirements. Specific directions/requirements include: incorporating 10 out of 15 techniques learned, variety of lines, shapes, 3-D forms, overlappingimages, big and small images, straight and curved shapes, and all of the Elements of Art (line, shape, color, texture, value, form, space).

G. Resources and Materials

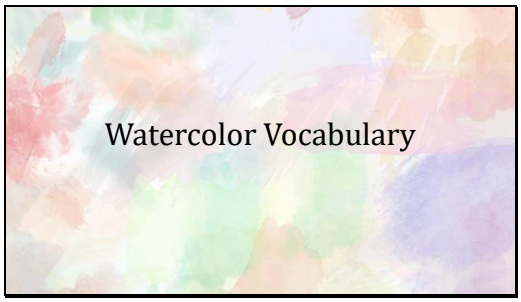
Resources:

Google images
PowerPoint
http://arthistory.about.com/od/glossary_a/a/a_abstract_art.htm
http://www.visual-arts-cork.com/abstract-art.htm
https://www.youtube.com/watch?v=K-KYHJriivw
http://www.ncpublicschools.org/docs/acre/standards/new-standards/arts/visual/k-8.pdf

Materials: PowerPoint, Watercolor example, 4" x 24" watercolor sample paper, laptop, 8.5" x 11" sketch paper, 12" x 12" watercolor paper, 15" x 18" piece of cardboard backing (watercolor paper already taped on), guidelines, watercolor paint, paintbrushes, salt, saran wrap, rubber cement, alcohol, tissue, watercolor pencils, crayons, water cup, painters tape, pencil, Sharpie

APPENDIX F3: WATERCOLOR VOCABULARY POWERPOINT

Slide 1



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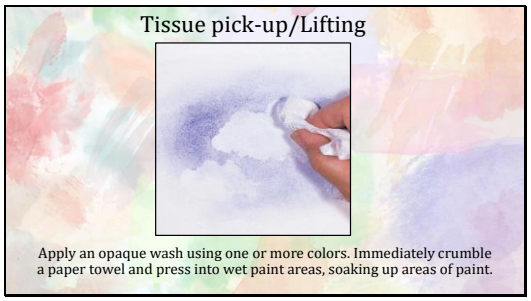
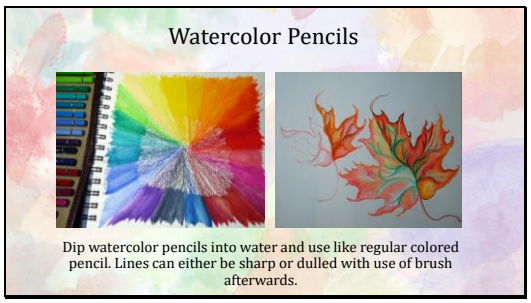


Slide 9

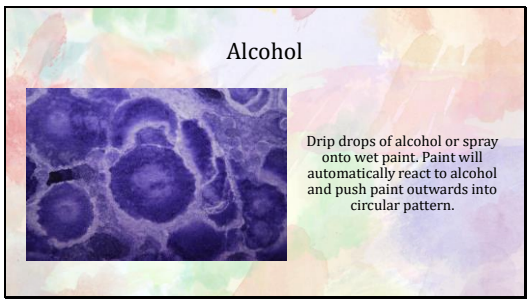


Slide 10

Slide 11

Slide 12

Slide 13



Slide 14

Slide 15