An Investigation of Interactive, Dialogue-based

Instruction for Undergraduate Art History

Penelope Gioffre

Wilmington University

2012

**Abstract**

Although interactive teaching and learning methods have been successfully employed in graduate-level art history courses for decades, they are rarely implemented in undergraduate classrooms.  This paper explores the feasibility and efficacy of incorporating an interactive, discussion-based instructional approach into an undergraduate survey course and investigates effects of the new pedagogic strategy on students' demonstrated comprehension and retention of required content. The action research project follows a systematic process of inquiry commonly used by professional educators looking to improve the quality of their own practices.  First, background is established and relevancy is demonstrated through a comprehensive literature review.  This paves the way for a discussion of methodology, which includes a description of an original instructional technique that combines student-centered dialogue with interactive exercises designed to enhance critical, higher-order thinking and metacognition in a representative sample of first year college students taking a required art history class.  An analysis of the impact and implications of the new teaching method is also presented.  In closing, the writer contends that incorporating an updated instructional strategy into the traditional slide-lecture format of art history is more effective than the traditional method alone in promoting cognition and increasing achievement, and suggests that similar interactive strategies can be successfully employed to enhance the quality of students' academic experience in circumstances comparable to the one presented.

*Keywords*:  undergraduate art history, teaching and learning art history, interactive method of teaching art history.

**An Investigation of Interactive, Dialogue-based**

**Instruction for Undergraduate Art History**

Undergraduate art history has been taught the same way for decades.  As far back as anyone in the field can remember, the scenario remained the same.  A professor stood in a darkened room before a group of anywhere from 20 to 200 students, and lectured on the characteristics of two slides projected onto an over-sized screen.  While the professor talked, students made notes of names, dates, styles, periods, and design elements they would be expected to memorize and recall in order to perform successfully on upcoming assessments.  Exceptions to this schema were few and far between.  At the time of the current research project, presentation styles and pedagogical approaches remained virtually unchanged, while student dissatisfaction with the traditional format seemed to have increased.

The purpose of this action research project was to identify a specific problem with conventional art history pedagogy and investigate the possible impact of an intervention on that problem.  The issue presented itself to the current writer-researcher through conversations and conferences with colleagues conducted over a period of sixteen months.  The most common complaint raised in these talks was that first-year art history students were not demonstrating deep knowledge of subject matter when assessed either orally or on written exams.  In considering the matter in respect to her own classes, the current writer came to a similar conclusion.  Once a problem was identified, an exploration of possible causes ensued.  This preliminary inquiry was followed by a proactive quest for remedial intervention.

By observing habits of participation and recall-response behaviors, as well as, reviewing past test results, the writer-researcher found that many students did not appear to be grasping important concepts and pertinent information in a manner consistent with the standards of the institution or the stated competencies and objectives of its academic studies/liberal arts program.  These

competencies and objectives included the abilities to employ the professional terminology of art history to describe and analyze works of art by placing them in historical, cultural, and stylistic contexts, to decisively evaluate works of art from a variety of perspectives, and to utilize critical thinking skills to effectively explain and defend views in both written and spoken form.  Student behaviors suggestive of a problem in teaching and learning dynamics included the following:  1. a general lack of student engagement, 2. low levels of verbal participation, 3. high levels of anxiety and little confidence going into test situations, and 4. poor performance on the essay sections of written assessments.  Contextual circumstances identified as contributing to the problem originated in three pedagogical issues.  First, required art history courses at the host school were commonly taught in a format that emphasized the unilateral transfer of information from teacher to student, rather than the creation of knowledge through teacher-student and student-student interaction.  Second, typical instructional strategies stressed rote memorization over group discussion and collaborative activity, thus stifling students' intrinsic motivation to learn and process knowledge that they could later express/exhibit in oral or written form. Third, previous teachers had instituted such rigid requirements and guidelines for identifying slides and writing essays that students had little leeway for original thought or creativity in answering questions or addressing subject matter.

After considering the problem and its causes, the current writer identified a research topic. This research topic focused on the prospect of implementing a new teaching method designed to increase engagement, cognition and achievement in the undergraduate art history classroom. Having established the necessity and feasibility of studying the topic, the next step was to conduct a thorough literature review.  The scope of this review included research on neuroscience, cognitive psychology, educational psychology, and learning theories, as well as, relevant scholarship in teaching and learning in higher education and undergraduate art history.  Through this investigation it was found that the topic was not entirely original.  In fact, issues concerning lecture-based

teaching at the undergraduate level had been identified and discussed by various researchers (Halpern & Hakel, 2003; Doyle, Edison & Pascarella, 2000) over the past several years.  The collection of reviewed literature supported and informed the current research plan, including finalization of a research question, selection of a quantitative research design, and development of a methodology.

<div align="center">**Literature Review**</div>

Although most universities, liberal arts colleges, community colleges, and colleges of art and design offer courses in art appreciation or art history, there has been surprisingly little scholarship on innovation in these disciplines, particularly in regard to updated teaching and learning methods. Teacher-researchers who have explored the restructuring of traditional lecture-based instruction in art history have mostly done so independently, basing their work on recognition of the need to improve the efficacy of arts education for the 21$^{st}$ century.  The ideas proposed by these writers shared a common purpose, but varied in design and scope.  This diversity in subject-specific research affected the planning process of the current project.

A dearth of published material on art history pedagogy and alternative methods of teaching and learning in the discipline made it necessary to broaden this investigation by consulting various sources on best practices in undergraduate education, as well as, selected literature on cognitive psychology, educational psychology, learning theories, and neuroscience.  This deeper inquiry was undertaken in order to provide a more substantial foundation for the action research project.  The additional sources not only offered multiple points of view, they provided essential scholarly support for the current project and served to strengthen the rationale for its design and implementation.

**Research on Brain Development**

Research on human brain development and neural maturation conducted over the past decade has significantly changed the way we consider the behaviors and performances of first-year

college students.  Commonly assumed by most professors and administrators to be capable young adults, many of these students would be better described—in terms of their brain functionality—as late adolescents.  Experts in the field of neuroscience that focuses on the study and measurement of brain development have recently found that the adolescent brain, once thought to be fully developed by the mid- to late-teens, actually continues to mature well into the twenties (Giedd, 2004; Luna, et al., 2001).  Research indicated that the late maturation period corresponds directly to the time when traditional-aged college students are experiencing their undergraduate education.  This development phase involves a series of changes in the brain that enable the expansion of specific cognitive capabilities (Luna & Sweeny, 2004).  Luna et al. (2001) have theorized that the cognitive capabilities continuing to develop at this age are those needed for problem solving, self regulation, and higher-order thinking.

Although much of the ongoing research focused on brain development in adolescents, many findings appeared to have strong implications for emerging-adult students.  Results of Giedd's (2004) functional magnetic resonance imaging (fMRI) study, conducted in association with the National Institute for Mental Health, suggested that adult brain function and efficiency are just being established around the same time that students are undergraduates.  Viewed from the perspective of a college professor, this information indicated that teachers of first-year students may need to put more effort into guiding learners in the acquisition and perfection of important cognitive skills required to achieve their educational goals.

**Cognitive Psychology, Educational Psychology & Related Learning Theories**

In order to successfully design and implement new instruction, a fundamental knowledge of prominent theories in cognitive and educational psychology is crucial.  Based on this belief, a thorough examination of the most relevant theories was conducted in order to discover parallels to the intervention proposed for the current project.

The most well known and widely accepted learning theory with implications for this project was Vygotsky's (1978) Social Development Theory, which emphasized social interaction—particularly among students and a subject-matter expert—as the key to cognitive development. Stressing collaboration and active learning, the Russian psychologist maintained that humans process information in both interpersonal and intrapersonal formats, first by interacting with others and second by internalizing skills and behaviors absorbed through interaction and reorganizing them into functional elements of higher-order thinking, such as "voluntary attention," "logical memory," and "the formation of concepts" ( Vygotsky, 1978, p. 57).

A second potential influence on the design of this project was the Theory of Multiple Intelligences (MI) developed by Harvard University's Gardner (1983, 1999).  MI theory was based on the assumption that all individuals have multiple approaches to learning and, therefore, a variety of potential avenues to understanding. Presenting conclusions from sixteen years of research into ways learners experience and understand the world, Gardner's (1999) *Intelligence Reframed: Multiple Intelligences for the 21st Century* provided examples of practical applications of the MI theory in various settings and finalized the number of intelligences at nine.  The ultimate list of intelligence categories included the following titles: Verbal/linguistic, Logical/mathematical, Musical/rhythmic, Bodily-kinesthetic, Spatial, Interpersonal, Intrapersonal, Naturalist and Existential.  The definition of existential intelligence, the last category recognized, referred to an individual's affinity for asking profound questions about humanity's existent and significance.  Gardener (1999) posited that this intelligence was the one most connected to the arts, the humanities, philosophy, and religion.

Also particularly applicable to this project—due to art history's reliance on audio/visual components—was the Cognitive Theory of Multimedia Learning, introduced by the University of California's Moreno and Mayer (1999) and expanded by Mayer (2008) during the last decade.  The Cognitive Theory of Multimedia Learning was based on the principle that people learn from verbal

and visual stimulation.  Multimedia learning was described as a form of knowledge acquisition reliant on:

> (a) dual channels—the idea that humans possess separate channels for processing visual and verbal material; (b) limited capacity—the idea that each channel can process only a small amount of material at any one time; and (c) active processing—the idea that deep learning depends on the learner's cognitive processing during learning (e.g., selecting, organizing, and integrating).  (p. 761)

In his definitive work on combining multimedia learning with the science of instruction, Mayer (2008) explained how to effectively implement multimedia instruction for success in the classroom.  In a narrative describing the results of his evidence-based study, he listed ten theoretically-grounded features of successful multimedia learning environments.  These features included "five principles for reducing of extraneous processing, three principles for managing essential processing, and two principles for fostering generative processing" (Mayer, 2008, p. 763). Significant findings of this study included the following:  1. Although words and images work well together, extraneous detail in multimedia learning (e.g. on-screen text during a Powerpoint lecture) causes unnecessary cognitive processing, and should therefore be eliminated; 2.  Students learn best when words and images are delivered in "learner-paced segments" (Mayer, 2008, p.765); and 3. Students learn best when spoken words are presented in an informal, conversational style.

A somewhat lesser-known theory to emerge from the field of cognitive development with implications for this project was the Theory of Transformative Learning.  Most prominent of the researchers in this domain and its most cited contributor was Mezirow (1997, 2000) of Columbia University.  Unlike previous examples, literature concerning this theory focused on adult learners and a distinctly adult process.  Learning was identified as transformative if it offered students a way

to efficiently construct meaning and effectively act on understandings, assumptions, values, and

beliefs.  Mezirow (2000) defined transformative learning as:

> the process by which we transform our taken-for-granted frames of reference (meaning
>
> perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating,
>
> open, emotionally capable of change, and reflective so that they may generate beliefs and
>
> opinions that will prove more true or justified to guide action.  Transformative learning
>
> involves participation in constructive discourse to use the experience of others to assess
>
> reasons justifying these assumptions, and making an action decision based on the resulting
>
> insight.  (pp. 7-8)

The emphasis on participatory dialogue as a means to common understanding was presented

as a benchmark of learner maturity that educators were encouraged to strive for.  Transformative

learning, as explained by Mezirow (1997), is exclusively adult in makeup because  it "requires that

new information be incorporated by the learner into an already well-developed symbolic frame of

reference, an active process involving thought, feelings, and disposition" (p. 10).  Students that

experience transformative learning have preexisting reserves of knowledge and sets of skills that they

draw upon in order to transform new information into meaningful learning.  In order for the

transformation to occur, teachers "must assume responsibility for setting objectives that explicitly

include autonomous thinking and recognize that this requires experiences designed to foster critical

reflectivity and experience in discourse" (Mezirow, 1997, p. 10).

The final theory with relevance to this project was Perry's (1970) Theory of Intellectual and

Ethical Development.  This model for intellectual development in college students was first

developed in the 1960s and 70s.  Based on the results of a fifteen-year study of students attending

Harvard and Radcliff, the theory suggested that most typical undergrads transition through a

number of distinct sequences on their way to adult cognition.  Perry's (1970) hypothetical

progression was originally presented in nine steps, but can be consolidated into three general stages: Dualism, Multiplicity, and Relativism. Dualism referred to the level of cognitive development in which students believed there was one and only one correct answer to all problems. At this stage, knowledge was received by students and considered absolute. Following the initial stage, students transitioned to that of Multiplicity. This phase corresponded to the level of cognitive development in which students learned that there were conflicting answers to most questions and a variety of opinions on most issues. When experiencing Multiplicity, students viewed knowledge as subjective. In the final, most cognitively advanced stage, students learned to construct knowledge by acknowledging diverse perspectives, experiencing empathy, and practicing various methods of reasoning. In the stage of Relativism, knowledge was constructed through integration and reflection (Perry, 1970). Reaching this stage would be considered the ultimate goal of a successful undergrad.

**Applications of Cognitive Psychology & Learning Theories in Undergraduate Education**

**The Role of Faculty**

Several important papers pertaining to the application of cognitive psychology and learning theories in the undergraduate classroom were published in recent years. The notion that educators need to be informed about the ways in which their students access, integrate, store, and retrieve knowledge, in order to provide these students with high quality education, garnered considerable attention from both educators and psychologists.

One of the most prolific and passionate writers on the topic was Halpern (2003; Halpern & Hakel, 2003). In a powerful call-to-arms on the issue, she (Halpern, 2003) asserted:

If cognitive psychology is the scientific body of knowledge that should be guiding the practice of education in much the same way that biology underlies the practice of medicine, then prospective and continuing teachers should have a level of expertise in human cognition that is comparable to the physician's expertise in biology. (p. 2)

This was just one of many declarative statements made in articles written by the professor of

psychology at Claremont McKenna College and past-president of the American Psychological

Association.

In *Teaching for the Future: Fostering the Twin Abilities of Knowing How to Learn and Think Critically*

(Halpern, 2003), educators were encouraged to engage in research on teaching and learning in order

to acquire the tools necessary to teach in 21st century universities.  Contrasting the objectives of

educators from past generations, who were "primarily concerned with presenting students with the

facts" (Halpern, 2003, p. 5), with goals of current college teachers, Halpern (2003) presented critical

thinking, decision making, and problem-solving skills as goals of the future.

In a second article from the same year, Halpern and Hakel (2003) posited that although most

college professors possess in-depth knowledge of their academic disciplines, they often have little

background in teaching and learning theory, and suggested that this situation be rectified for the

future.  In this article, the authors identified the primary goal of college teaching as "long term

retention and transfer" (p. 38) of learning, as opposed to preparation for tests and exams.  She also

asserted that "lectures work well for learning assessed with recognition tests, but work badly for

understanding" (Halpern & Hakel, 2003, p. 40).  To support the call for a new approach to teaching

and learning, she offered a set of laboratory-tested principles for guiding one's teaching practice.

These guidelines included descriptions of the benefits of varying the conditions and formats of

instruction, as well as, suggestions for enhancing learning by acknowledging differences in student-

held epistemologies and recognizing that understanding is an interpretive process heightened by

active participation (Halpern & Hakel, 2003).

Research conducted by Doyle, Edison and Pascarella (2000) evaluated the hypothesis that

"specific types of instruction can impact students' growth" (p.17), and concluded that teachers of

college students should be more pro-active in promoting the use of higher-order cognitive skills in

their classrooms if they want to witness increased levels of academic performance.  Doyle, Edison and Pascarella's (2000) longitudinal study of undergraduate students at eighteen four-year colleges looked at the affects of the instructional process on the cognitive development of these students. Results of this study indicated that in situations where instructional practices focused on higher-order thinking skills, students made substantial academic gains over a three year period.  On self-reported surveys, students "consistently reported gains in their ability to perform…intellectual tasks, both in general, and in specific discipline areas (i.e., Art/ History/ Humanities and Science and Technology)" (Doyle, Edison & Pascarella, 2000, p. 17).

In *Faculty Do Matter: The Role of College Faculty in Student Learning and Engagement,* Umbach and Wawrzynski (2005) investigated how undergraduate learning experience was affected by increasing the effectiveness of teaching.  Collaborating from dual locations—Umbach at the University of Iowa and Wawrzynski at Michigan State—these researchers used "two nationally representative sources of data for undergraduate student engagement, faculty practices, and institutional characteristics to explore indicators of gains in student learning" (Umbach & Wawrzynski, 2005, p.155).  Findings indicated that teachers who used active and collaborative teaching methods that students found challenging, and activities that emphasized higher-order cognitive processing, were more likely to engage students and generate gains in student learning than teachers who did not espouse similar methods.

**Individual Applications**

A cluster of research from the past four years suggested that educators at the college level have begun to take the issue seriously.  Several examples were found that examined the effects on undergraduate education of individual instructional strategies informed by an increased awareness of cognitive development and a desire to up the quality of the undergraduate teaching and learning experience.  The following selections were of particular relevancy to this project.

Jones and Jones (2008), both of Niagara University, published an ambitious study on cooperative learning strategies applicable to higher education.  Although these authors acknowledged a continued resistance to innovative teaching practices in many college classrooms, they pointed out that the tide is slowly turning, and proposed that cooperative learning may be the most viable way for many instructors to enhance their traditional instructional format.  Much of Jones and Jones' (2008) study was based on the work of Johnson, Johnson and Smith (1991), of George Washington University, who discussed how college teachers could utilize a group-based, cooperative learning model to promote active over passive learning as a means of achieving common goals.  A comprehensive investigation of cooperative learning procedures, including thirty cited sources, led the authors to draw conclusions about the benefits of using the model.  These included outcomes such as enhanced transfer of knowledge, increased self-reflection, accurate self assessment and heightened social competencies.  In addition to their scholarly research, Jones and Jones (1991) also conducted a comparative study of Vermett's (1998) model of cooperative learning in K12 classrooms with Johnson and Johnson's (1991) model.  In juxtaposing these two approaches, Jones and Jones (1991) found the most common benefits of cooperative learning to be the creation of positive interdependence among students, the establishment of an ongoing dialogue and the introduction of critical, peer-based feedback.

Transformative learning was the goal of an instructional design put forth by Hodge, Baxter-Magolda and Haynes (2009) of Miami University.  This group of researchers relied heavily on the theory of Mezirow (2000) mentioned above.  Referencing the Association of American Colleges and Universities' (2007) list of outcomes required for success in the 21st century, they identified intellectual and practical skills, personal and social responsibility, and integrative learning as hallmarks of quality higher education.  The educational paradigm they recommended to facilitate these essential outcomes centered on transformative learning as described by Mezirow (2000) and

emphasized the notion of self-authorship, a situation in which students "evaluate information critically, form their own judgments, and collaborate with others to act wisely" (Hodge, Baxter-Magolda & Haynes, 2009, p. 18). This approach stressed a teaching style that encouraged students to actively construct knowledge and discover their own thoughts and ideas in a collaborative environment, purposefully designed by the teacher.

Finally, Mengel (2011) of the University of New Brunswick, focused on raising the bar in undergraduate education by implementing teaching and learning strategies that eschew meaningless knowledge transfer in favor of more meaningful instructional techniques that venture "beyond valuing students' abilities to maximize their own attainments by also valuing students' abilities to maximize attainment of others and to contribute to solving problems" (p. 121). He identified the discovery of meaning and the acquisition of wisdom as goals of undergraduate education, and delineated three guiding principles for creating a learning environment to ensure the meeting of these goals. He first introduced the notion of a college classroom that includes cooperative and collaborative learning that has meaning for both students and their academic communities. This was followed by a second principle, which called for the integration of assessment and feedback with instruction. Finally, his third principle called for a balance of individual and social learning, including "group work, individual reflections, logical, analyses and active experimentations or fieldwork" (Mengel, 2011, p. 121).

Each example of instruction reviewed in the preceding section was considered practical and applicable across disciplines.

**Innovative Instruction in Art History**

The following selections comprise a comprehensive summary of literature describing proposed and applied instructional strategies specific to the discipline of art history. Although parameters encompassed the past two decades, most relevant work occurred after the year 2000.

Prior to that time, contemplation of the restructuring of traditional art history slide lectures was not popular among teaching-scholars in the field and scholarly literature pertaining to art history pedagogy was virtually non-existent.

Sowell (1991), a professor of art and art history at the University of Nebraska, set forth one of the first documented recommendations for a new teaching method in art history. Noting that most students walked away from her introductory art history lessons with little more than memorized rudimentary facts, she identified a general lack of mature, thoughtful engagement as detrimental to the learning environment. Taking inspiration from the Accent on Developing Advanced Process of Thought Program (ADAPT), she decided to incorporate interactive learning cycles into her typical lecture courses in order to encourage exploration and promote reasoning skills. Using her own students as a representative sample of college undergraduates, Sowell (1991) practiced a technique that she believed would challenge "formal reasoning and develop new modes of thinking" (p. 15). Her learning cycles approach involved having students work in small groups several times over the course of a semester to explore and discuss concrete objects of art. Each group meeting constituted a separate cycle and promoted students' collaboration in different ways. Sowell (1991) explained that adding learning cycles to a lecture format not only enhanced students' learning experiences by making the process more interactive, it made her lectures more effective because students had learned how to discuss art among themselves and take responsibility for their own learning. In justifying her use of the new teaching strategy to other professors unconvinced of its worth, Sowell (1991) insisted:

> I have found that I can cover the same amount of material as before. Those concepts to which I used to give a great deal of lecture time are incorporated into learning cycles and are actually dealt with more effectively by the students than by lectures alone. (p. 18)

No work of any serious import to the current project was published during the decade immediately following Sowell's (1991) article. However, several noteworthy papers were written and published in various scholarly and professional journals during the first decade of the new millennium. Some of these works had thematic ties, while others were quite unique. All writers agreed that a shift in focus from teacher-centered lectures to participatory, student-centered activities would be necessary to keep the study of art history relevant in the 21$^{st}$ century.

Chanda and Daniel (2000), both of Ohio State University, wrote an article focused on the general topic of improving arts education across disciplines. In doing so, they set the bar for future work in the field. Their discussion concentrated on "teaching that facilitates the discovery and exploration of meaning in works of art" (Chanda & Daniel, 2000, p. 6) and emphasized the importance of helping students create relevant connections between their own lives and works of art, both past and present. A recurring theme was the authors' advocacy of a creative, discussion-based approach to teaching art history that would propel students beyond the physical knowledge of an art object to a deeper, contextual knowledge of the history surrounding that object.

The University of Missouri's Curtis (2001) addressed the effects of contemporary cultural norms on the generation of students born between 1982 and 2003. Noting that this generation has been raised in a world inundated with images shown on television, movies, video games, computers and the internet, he suggested a general indifference to visual imagery as the primary reason for disengagement in many art history classrooms. The trouble, Curtis (2001) hypothesized, is that our media-driven consumerist society has provided many pictures, but few opportunities or examples of how to engage in verbal discourse about those pictures. He concluded that since the backpack generation of art history students lack experience in responding to the multitude of images they encounter daily, they naturally have difficulty responding to art presented to them in a traditional slide lecture. These students have been conditioned to believe that images shown on screen are

linked to play or entertainment, not thought and discussion.  According to Curtis (2001), the task of today's art history professors "is to teach undergraduate students how to make verbal responses to visual images" (p. 32).  His recommended way of accomplishing this pedagogical objective was through a curriculum focused on relationships created between image and dialog—an interactive model in which students feel included in the learning process and professors "talk to them, not at them" (p. 41).

Unlike Curtis (2001), who focused on in-class interactions between words and images, Donahue-Wallace (Donahue-Wallace & Chanda, 2004; Donahue-Wallace, La Follete & Pappas, 2008) focused on online interaction.  Since 2002, the University of North Texas associate professor of art education and art history had worked with colleagues to design and test instruction focused on the integration of digital technologies and art history.  *A Case Study in Integrating the Best Practices of Face-to-Face Art History and Online Teaching* (Donahue-Wallace & Chanda, 2004) was one of the first detailed studies of technical innovation in teaching art history to be published anywhere.  This document described the design and implementation of an online art appreciation course incorporating the best features of in-person instruction—the modeling of visual literacy skills and strategies of interpersonal interpretation—with the convenience and self-directed learning of online education.  Explanations of the online curriculum and examples of specific interactive study modules were included, as were descriptions of the actual case study conducted.  The purpose of the study was to answer the question:  "Can an online art history course based on a performative triangle model yield learning equal to or better than that of the face-to-face model?"  (Donahue-Wallace & Chanda, 2004, n.p.).  The sample of students in the study comprised a single class divided into three groups:  a control group that received only face-to-face instruction, an experimental group that received only online instruction, and a second experimental group that received a combination of face-to-face and online instruction.  Data from the study indicated that students acquired the

same information from online instruction as they did from face-to-face lectures or a combination of both methods of instruction. However, the combination group was found to have acquired a deeper understanding and demonstrated a better usage of relevant vocabulary than the other two groups (Donahue-Wallace & Chanda, 2004).

Four years after the above case study was conducted, Donahue-Wallace, La Follette and Pappas (2008) documented additional research into the adoption of computer based tools and technology for art history courses. Most of the information presented was reflective and centered on teaching and learning in introductory-level survey courses, as they were considered to have the lowest level of engagement and the greatest need for pedagogical enhancement. General findings presented in this later article included the assertion that although new technologies and digital resources "are here to stay" (Donahue-Wallace, La Follette and Pappas, 2008, p. 4), there remains a need to mediate the role of these elements in the art history classroom. The authors supported the use of digital slide libraries and interactive, smart technology, but tempered their enthusiasm by calling for judicious and cautious use of online media, particularly in the linking of these resources to course and institutional learning outcomes.

The year 2005 saw several additions to the body of research on art history pedagogy, due in large part to the theme of that year's September issue of the College Art Associations' newsletter. Re-stating a decade-old call made by guest editor Bradford Collins (1995) to address the conspicuous lack of scholarship concerning education, this issue included various articles by prominent historians and professors on pedagogical concerns in studio art, art history and museum education. Of greatest import to the current research project were papers written by Lindner (2005) and Sandell (2005).

In *Inspiring Pedagogy: The Art of Teaching Art,* George Mason University's Sandell (2005) asked the question, "How can art faculty promote engaged learning in our post modern visual culture?"

(p. 6).  In response, she offered four specific aspects of art pedagogy that promote learning in higher education.  These aspects included "disposition," "planning," instruction," and "assessment" (Sandell, 2005, p. 7).  Each aspect referred to a specific dimension of active practice unique to a teacher-scholar.  Disposition referred to a teacher's demonstrated expertise his/her discipline and professional behavior as an instructor and role model.  Planning referred to a teacher's development and organization of the learning process for specific groups of students.  Instruction referred to the implementation and delivery of lessons, including questioning strategies, collaborative learning procedures, and assignments.  Assessment referred to a teacher's formative and summative evaluations of both teaching and learning in the classroom.  Sandell (2005) concluded that each of these dimensions must be recognized and refined by a teacher in order for his/her students to perceive the meanings, functions, relevance and significance of the artwork they are expected to recognize.

In the same issue of CAA News, Lindner (2005) presented a more explicit recommendation for promoting engagement.  Like Curtis (2001), this assistant professor of art at Kent State University identified the culture of contemporary students as one that was incompatible with the models and methods of the traditional art history survey.  She also expressed a popular opinion held by many college professors that contemporary college freshman tend to approach complex issues in extremely elementary ways, focus heavily on immediate outcomes (e.g. test grades), and "do not perceive learning as a lifelong, cumulative, and organic process that delights and fascinates them" (Lindner, 2005, p. 8).

Lindner's (2005) response to the dilemmas she faced in the classroom was to experiment with a problem-based learning (PBL) approach to art history.  With the PBL method, student learning experiences became less passive and more active because collaborative group work was given priority over lectures and exams.  Students were assigned with problems to solve, based on

information presented by the professor, and given the opportunity to collaboratively work out the solutions to these problems.  These solutions came in the form of research projects or papers co-authored by each group.  The problem-based projects dictated the pace, and often, the direction of the course.  According to Lindner (2005), PBL was successful in her classroom.

Phelan et al. (2005) presented a follow up to CAA's pedagogy-themed newsletter in the association's quarterly journal.  The article entitled *Art History Survey: A Round Table Discussion* (Phelan et al., 2005)*,* and its accompanying visual essay, was compiled by Phelan (chair of the Art Journal editorial board) of excerpts from a 6-way, online/email discussion about teaching art and art history in the 21$^{st}$ century.  The focus the article was the survey course, its expanding audience, and contemporary challenges to its traditional format.  Every participant in the discussion forum was an art history educator with his or her own opinions on the state of art history pedagogy.  All agreed on the ineffectiveness of the decidedly outmoded slide-lecture survey.  Most advocated for the addition of more active teaching and learning strategies to the survey.  Specific recommendations for enhancing the classic presentation of art history with 21$^{st}$ century methods included Desmond's (Phelan et al., 2005) creation of a "community of art learners" (p. 36), Shipps' (Phelan et al., 2005) prescription for constructing meaning through discussion and reflection on art theory, and Costache's (Phelan et al., 2005) insistence on using relevant paradigms of learning that include mandatory museum field trips and cumulative (year to year) assessments.

The undergraduate survey was also considered by Way (2007) in a convincing appeal for pedagogical redesign in art history published in FATE in Review.  Identifying the graduate seminar as the ideal venue for promoting challenging and "intensive student engagement with art history content" ( Way, 2007, p. 24), this professor in the School of Visual Arts of the University of Texas contended that undergraduate foundation courses should be taught in the same format.  She argued that the objectives of undergraduate learning could be better achieved if teacher focused on

pedagogical features traditionally attributed to the graduate seminar, including "active learning, learner-centered mastery and becoming part of a close-knit learning community" (Way, 2007, p. 26).

In *Actively Teaching (Artists) Aesthetics*, artist, scholar, teacher and critic, Desmond (2008), compiled several recommendations for enhancing what she termed "the outdated teaching and presentation methods" (p.1) of the art history lecture. Consistent with both Curtis (2001) and Lindner, (2005) this former chair of the College Art Association's Education Committee pointed to the cultural differences between students of the current generation and their elders as an issue of contention in contemporary classrooms and emphasized the need for more active learning environments that encourage critical thinking and dialog. She also offered a number of basic strategies for teaching actively, including the Socratic method of questioning and a method of thinking aloud, in which teachers model their personal thought processes by verbalizing questions and strategies that go on in their own minds. The incorporation of group learning and peer-discussion was also recommended.

The final three articles were not only among the latest to be written, they also proposed the most unique approaches.

Selen, Erk and Wilson (2007) presented a well-developed plan for restructuring the way art history is taught to design students attending Turkey's Izmir University. Instead of the traditional, chronological art history survey, these representatives from the departments and Architecture, Art and Design combined resources to create a more pragmatic, non-chronological course that they felt would better suit their students. Slide lectures remained important elements of each lesson, but content was presented thematically and students were encouraged to approach the artworks from the perspective of active artists and designers. After presenting the material to a class of 25 students, the authors reported satisfaction with the new instruction, citing student test scores and positive course evaluations as the affirmations of success.

Rose and Torosyan (2009) wrote about designing and implementing curricula for their respective courses in art history and philosophy at Fairfield University. These two professors were faced with the challenge of freeing themselves from the ever deepening "rut of traditional methods of teaching in the arts and humanities, such as requiring memorization of facts and images" (Rose & Torosyan, 2009, p. 62), that so many of us find ourselves falling into. Seeking immediate and effective change, they both set out to design and implement new instruction. The philosopher strove to make his course more relevant to contemporary students by including literature written by a wider range of authors with more nontraditional perspectives that they could discuss and reflect upon. The art historian wanted to find a way to make the discipline of art history a meaningful part of his student's knowledge base instead of a moment in their short-term memory that commonly resulted from the typical slide-lecture course. Together, Rose and Torosyan (2009) redesigned their curricula around the single learning goal of integrating "big questions with real world applications" (p. 63). Basing their instruction on Fink's(2003) taxonomy of significant learning—which emphasizes the ultimate metacognitive concept of learning how to learn—they then completely rewrote the goals for each of their classes to focus on learning activities that would encourage students not only to memorize facts, but to think critically and apply knowledge. Results of implemented changes to both courses were positive. Increased levels of engagement, more active participation in discussions, and new abilities to internalize knowledge were reported by both writers.

Getsy's (2009) article proposing a method for teaching art history inspired by video game design was undoubtedly the most innovative of all literature reviewed. While serving as Director of the Graduate Program in Modern and Contemporary Art History, Theory, and Criticism at the Art Institute of Chicago, Getsy (2009) searched for a solution to the question of how current art history pedagogy might be modified to "encourage a set of tools through which emerging artists can learn

and adapt to the ever-changing priorities of the art contexts in which they position themselves" (p.

127).  In stating his objective, this progressive art historian wrote:

> The teaching of art history (especially to art students) cannot be just a narrative recounting
>
> of events.  It must also be seen as a series of strategic conceptual and technical moves made
>
> by individual artists and collaborative endeavors in response to the artistic conventions and
>
> cultural conditions in which they are working.  (Getsy, 2009, pp. 134-135)

In searching for a way to make art history relevant, accessible, and thought-provoking, Getsy

(2009) tapped into the cultural phenomena of video-gaming that so many contemporary college

students accept as a way of life.  He considered various gaming technologies, ideologies and related

taxonomies and found that all led to the same conclusion.  Central to his findings was the

assumption that "games are important cultural and developmental activities because they provide a

surrogate for interactivity and absorption" (Getsy, 2009, p. 29).  It was this interactivity and

absorption that he strove to achieve by designing a method of instruction that emphasized tactical

planning, critical thinking, and creative problem solving.  After offering examples of instructional

procedures applicable to the college classroom, Getsy (2009) determined that presenting art history

from a gaming perspective allowed students to successfully engage in discourse not only about the

history of art, but also about their own place in that evolving history.  Although his primary focus

was on his own students and their observed needs and achievements over the course of several

semesters, the suggestions Getsy (2009) presented proved applicable to any undergraduate

population in the humanities.

**Summation**

The literature reviewed above covers a wide range of published work relevant to the current

action research project.  As part of the systematic process of planning an original intervention for a

contemporary art history course, the current writer endeavored to locate as much pertinent

information as possible to justify her decision to act.  In order to address the question of whether or not the implementation of a new teaching method would affect students' comprehension and retention of course content, this writer found it useful and inspiring to examine not only the scholarly output of art historians and educators, but also to delve into related work from the fields of neuroscience, cognitive psychology, and educational psychology.

Significant outcomes of this review are summarized as follows: 1. Reviewing various neuroscientists, psychologists, and cognitive theorists' publications on the topics of brain development (Giedd, 2004) and cognition (Mayer, 2008) was invaluable to this project because it provided a necessary foundation in both physiological and mental characteristics of college-aged students.  2. Exploring definitions and applications of cognitive psychology and examples of learning theories employed in undergraduate education was essential to the development of the research plan from original thought to viable project.  Mezirow's (1997) work was particularly enlightening, especially in its focus on how individual learners proceed toward an adult way of thinking.  3. The recognition of distinct cultural differences between students of the current generation and their professors drew attention to underlying socio-cultural issues in contemporary classrooms.  Curtis' (2001) discussion of these issues was invaluable.  4. The examination of ten innovative methods of teaching art history provided access to original ideas and success stories that this author had not been privy to before.  Certain works, including those of Selen, Erk and Wilson (2007), Rose and Torosyan (2009), and Getsy (2009) were appreciated for their creatively stimulating and resourcefully rogue approaches to modifying the traditional format of art history.  5. The scrutiny of several professionally written descriptions of the development, conduct and evaluation of educational research experiments and case studies, specifically those of Donahue-Wallace and Chanda (2004), Jones and Jones, (2008) and Mayer (2008), allowed the current author to learn from actual models of research design.

In conclusion, the current writer acknowledges that each dimension of the literature review process helped pave the way to the eventual proposal and ultimate implementation of this action research project.

## Method

### Research Question

To what extent will the introduction of interactive, dialogue-based instruction into the traditional slide-lecture format of an undergraduate art history course affect students' demonstrated comprehension and retention of content?

### Hypothesis

The integration of a new instructional strategy into the traditional teaching method will be more effective than the traditional method alone in promoting cognition and increasing achievement.

### Research Design

A quantitative approach was chosen for this action research project and a quasiexperimental group comparison design was employed. Although employing a true experimental design in the group comparison would have been ideal, a quasiexperimental design was found to be more practical under existing circumstances. While lacking the random sampling of experimental designs, quasiexperimental designs have become common and respected in educational research over the past several years. The quasiexperimental group comparison method was deemed appropriate for two specific reasons. First, group comparison designs have been proven effective in investigating cause and effect—a significant feature when attempting to test a hypothesis. Second, this type of research design has been determined useful in comparing two generally similar groups and studying the effect of a single independent variable on the performance of one of those groups (Mertler, 2012).

The parameters of the current project corresponded best to the quasiexperimental group

comparison design.  For this study, two groups were selected—a control group and an experimental group.  Using the pretest-posttest control group design, these groups were compared in light of a single independent variable that the experimental group was exposed to and the control group was not (Mertler, 2012).  That variable, also known as the intervention, was a new method of presenting content in an undergraduate art history course.

**Sample**

The setting was a small, fully-accredited, urban college specializing in the education of aspiring artists and designers.  The only terminal degree offered by this school was an Associate of Fine Arts (AFA).  All matriculated students followed a very strict two-year track of required studio and academic courses.  After graduation, most students continued their studies at four-year colleges or universities.

The sample consisted of two groups of students taking the same Art History II survey course in two different semesters.  The first group (2011 Group) consisted of 42 students who completed the course in the spring of 2011.  This was the control group.  The second group (2012 Group) consisted of 35 students taking the same course in the spring of 2012.  This was the experimental group.  All 77 participants were first-year matriculated students at the time of their participation in the study and all were working toward AFA degrees in areas of fine art or design.  One teacher managed and instructed both sample groups.  Both the 2011 Group and the 2012 Group met in the late afternoon, twice a week, for 15 weeks.  Except for the one instance involving the introduction of the independent variable, all students experienced the same lectures, viewed the same Powerpoint presentations and were given the exact same tests.

Typical of educational research, this was a non-probability convenience sample—meaning that student participants were selected based on their availability to the teach-researcher (Mertler, 2012).  Recognizing that this type of sampling lacked the inherent benefits of a random sampling,

the writer-researcher sought to verify that the two groups were similar in make-up. In order to strengthen the internal validity of the study, a good amount of effort was put into establishing the similarities between the groups within the sample and demonstrating their capacity to represent the school population.

Like most colleges of art and design, the school involved in this study had a student population rich in creativity and socio-cultural diversity. According to the most recent registrar's report, enrollment in the two-year AFA degree program was 236 students. This number included first and second year matriculated students. First year students made up the 2012 Group and second year students made up the 2011 Group. Data indicated that gender distributions in both groups were representative of the whole college. The 131 females and 105 males enrolled at the start of this research ranged in age from 18 to 27, with 82% of degree students below the age of twenty-one. These students confirmed majors in six areas. Approximately 21% of students declared animation, 18% declared illustration, 18% declared photography, 17% declared graphic design, 16% declared fines arts, and 10% declared interior design.[1] Of students reporting ethnicity, 56% were Caucasian, 24% were African American, 7% were Latino, 4% were Asian and 9% were other.

Additional student information was found in miscellaneous records and surveys. These records indicated that the majority of students had permanent residencies located in a six-state area surrounding the school's east coast location. The same sources also suggested a wide range of educational backgrounds, as indicated by transcripts originating from private, parochial, charter, suburban, urban and technical high schools, home-school programs and other colleges or universities. This information, combined with data tabulated from the registrar's report, indicated that student backgrounds and demographics in the sample groups were reasonably analogous and representative of the population as a whole.

---

[1] Because the major of interior design was only recently added to the curriculum, it is somewhat disproportionately represented across the general population.

All statistics referred to and represented in the above figures were based on the original

registrar's report on students enrolled at that time.  Transfers, withdrawals, or changes of major may

have altered these measurements over the academic year.

**Intervention**

Convinced that the study of art history at this small college of art and design should be more

student-centered and interactive, the current writer developed a new instructional method

(Appendix A) to be integrated into the traditional format of her survey course.  This strategy—

systematically organized in the manner of Dick, Carey, and Carey (2009)—involved a structured,

discussion-based review session focused on recognizing and identifying important elements in both

known and unknown (previously unviewed) imagery.  It was designed to be executed at the end of a

unit, after all required content had been presented and prior to administering a summative

assessment.  The primary aim of this intervention was to increase student comprehension,

confidence, and performance on said unit assessment.  The method involved a variety of active

teaching & learning strategies, including Socratic questioning methods and dialogue, meant to

encourage transformative learning (Mezirow, 1997, 2000).  The procedure was piloted—in various

abbreviated forms—in casual workshops and presentations offered by the teacher-researcher over a

period of several months.  It was then presented to the 2012 Group in the first half of the semester,

one week before their second test.

The sequence of the instructional intervention progressed in a logical order from

fundamental skills to higher-order thinking and metacognitive skills.  In the initial stage, students

were shown slides in the traditional format and asked to consider and interpret required images in

order to identify artists, titles, styles, dates and historical contexts that characterize the period of

interest.  Following this warm-up activity, students were prompted to analyze a selection of

unknown images that closely resembled known works in technique and stylistic tendencies.  The

formal qualities of these new images were comparable to the artwork students were already familiar with. This active engagement with both content and peers began the process of transferring pre-existing knowledge to associated content. As the study of unknowns continued, student participation increased and discussion evolved into dialogue. At this point, the teacher led the analysis into a Socratic questioning session that inspired critical thinking and deep learning. As active participants in the Socratic dialog, students collected, combined and organized new and existing information about historic art by answering probing and clarifying questions offered by the teacher and other students. Through a series of questions and answers, the teacher modeled for students how to extract information from their own cognitive stores. This process was designed to promote essential higher order thinking skills and encourage self-regulation.

The entire lesson was based on active engagement and vigorous participation through stimulating questions, answers, and discussion. By taking part in the interactive review, students acquired skills in analyzing artwork through a problem-solving approach to learning. The lesson itself provided numerous opportunities to try out and practice new skills, while the teacher offered constructive criticism and feedback as a conversant contributor to the discourse. Throughout the duration of the lesson, the teacher provided positive reinforcement for learning new skills. Finally, she informed all students of what needed to be recognized and recalled for the upcoming written assessment and advised them to utilize the self-directed techniques and methods they just experienced as study aids for that test.

**Data Collection**

### Formative Assessments

Data collection commenced a full year before the present action research project was officially organized. The process of gathering information began when the current writer instituted a system of observing and recording learner behaviors in the 2011 Group. Through classroom

observations, this teacher-researcher tallied and tracked levels of participation, instances of verbal

interaction, and demonstrations of content knowledge during instructional situations.  The same

system was repeated for the 2012 Group.  For purposes of the current study, behaviors were

measured at three and four-week intervals, beginning in the first week of class and continuing

through the eighth week, when records for the 2012 Group were posted after the intervention.

Participation during the intervention was also recorded.  The procedures were considered atypical in

this school, as it would have been in most institutions of higher learning where subject-matter

experts who serve as professors are not usually expected or required to record such information.

However, the current writer found that conducting this type of formative assessment and recording

data from the observations made her more aware of and responsive to the teaching and learning

process and strengthened her resolve to design an intervention that would increase participation,

understanding and achievement (Russell & Airasian, 2011; Mertler, 2012).  The process was

continued for the duration of both semester courses in order to provide comparable data for future

consideration.

Another type of formative assessment—and the first written evaluation for both groups—

was Gardner's (1999) Multiple Intelligences Survey, given approximately three weeks into each

semester.  The purpose of administering this survey was to provide students with a portrait of their

own learning tendencies and the teacher–researcher with insight into the various learning

preferences and cognitive strengths present in her classroom.  Results of the survey were analyzed

immediately.  Scores indicated that 85-90% of students in both groups possessed strengths in

visual/spatial and verbal/linguistic intelligences, but they also averaged high scores—at least 7 out of

10—in musical, interpersonal, and intrapersonal intelligences.  Over 80% of students scored 8 or

above in the existential category, which was the one intelligence most connected to the arts and to

an individual's affinity for asking profound questions about humanity's existent and significance

(Gardner, 1999).  Such data supported the current writer's decision to develop and implement an intervention that would accommodate a wide range of learning styles and address the need for inquiry and discourse.

### Summative Assessments

In following the pretest-posttest control group design, the primary instruments used for data collection were two written tests.  Both the control group and the experimental group were administered the exact same assessments. This procedure served to enhance reliability of measurement—particularly in terms of stability—in the event of future comparative studies. (Mertler, 2012)  Each test was developed by the writer–researcher in strict alignment with three factors: the learning objectives of the course entitled Art History II, the learning objectives set forth by the publisher of the required textbook for that class, and the standards and competencies set forth by the college's department of academic/liberal studies.  These tests were designed to evaluate both newly acquired and evolved knowledge.  The first assessed students' demonstrated knowledge of general facts, names, dates, and concepts pertaining to the medieval and gothic periods of western European art history, defined in this course as covering the $6^{th}$ through the $14^{th}$ centuries.  The second covered the same general facts, as well as, theories, stylistic tendencies and cultural phenomena associated with the time period.

Writing these assessments was a serious and deliberate undertaking.  Although most college-level art history tests and quizzes were known to be consistently bland—generally containing a number of slide IDs and two or three comparative essays—the current writer preferred to differentiate by adding a combination of multiple choice, completion and short-answer questions to the traditional format.  Inspired by her concurrent studies in educational evaluation and assessment, this teacher-researcher took intentional steps to create relevant, unbiased items for both tests.  In writing the selection, supply, and performance items, it was important to check and recheck

consistency between stated questions and content dimensions, as well as, alignment of objectives with the assessment strategies.  Each of these elements was analyzed using a table of specifications (Russell & Airasian, 2010).

Several randomly selected items on both tests were reviewed by three of the writer's colleagues prior to implementation.  During that process, the reviewers were asked to appraise how well the tests were framed and written.  Considerations included the choice of a sufficient number of items to make reasonably accurate inferences about student learning, the suitability of items based on prior experience and cognitive maturity of students, the efficiency of integrative objectives, the usefulness of differentiated elements, the potential for obtaining consistent, reliable information, and the probability that data obtained would be appropriate and valid (Russell & Airasian, 2010).  After slight revisions, based on critical feedback from the reviewers, the appraised test items were judged to be suitable measures of student comprehension and application of skill dimensions.  Since the content proficiency assessed in these items was found to closely parallel the content taught in class, it was determined that the teacher-researcher would be able to make valid inferences about the various instructional strategies employed  based on the results of both tests (Russell & Airasian, 2010).  Having established inter-rater agreement about the reliability and validity of individual items, as well as, about the standards for measuring the essays, it was finally determined that the tests were suitable for administration.

Because the academic department of the school in which this project was conducted does not encourage the student-to-student comparisons and distributive bell curves typical of norm-referenced evaluation, criterion-referenced grading was mandatory for all written assessments.  For formal evaluations—such as the two tests described above—grades were based on predefined standards of performance that allowed every student an equal opportunity to achieve any score and an equal chance to succeed, based on his/her own efforts (Russell & Airasian, 2010).  In keeping

with school-wide procedure, the tests administered for the purposes of this project were first scored numerically (raw scores) and then translated into percentages. The percentage grades were ultimately translated into letter grades, based on a ten point scale: 90-100=A, 80-89=B, 70-79=C, and 60-69=D.

In order to answer the research question and determine the accuracy of the hypothesis presented in the current research proposal, tests scores from the control group and the experimental group had to be recorded and analyzed in several ways. First, all percentage scores from both groups were collected and organized. Then, percentage scores for all participants in each group were summarized into mean and median scores for test 1 and test 2. The mean and median scores were calculated in order to provide single-number descriptors of performance for each group on each test. In order to get a better picture of the distribution and variability of scores, standard deviations were also calculated (Russell & Airasian, 2010). The mean scores and the standard deviations would all eventually be used in comparing the performances of the 2011 Group (control) and the 2012 Group (experimental).

**Informal Survey**

Finally, a single question, open-ended survey was distributed to all students in the 2012 Group at the start of the first class meeting after their second unit test/posttest. The survey posed the question: What impact, if any, did our discussion-based, unknown image review session have on your understanding of course content and preparation for the test? Responses were loosely grouped and then tallied in order to get a general sense of student opinions and attitudes toward the new teaching and learning strategy (Mertler, 2012).

## Results

The following section has been divided into two parts in order to provide results of two different data measures: achievement tests used to gauge student learning and observations used to gauge student engagement.

### Test Results

After collecting, posting and summarizing the final test scores of the 2012 Group, data analysis began. This process involved a comparison of data collected from the traditionally taught group of students (2011 Group) with data from the group who received the intervention (2012 Group). The procedure included comparing pretest to posttest scores within each individual group, pretest to pretest scores between both groups, and posttest to posttest between groups. For each set of tests, mean scores were compared. Dependent sample and independent sample *t*-tests were conducted to measure the significance between means. For these comparisons—as common in most educational research situations—a *p* value of less than .05 indicated a statistically significant difference (Holcomb, 2007). Results were documented in Tables 1, 2, 3 and 4.

Table 1
*Pretest Scores and Results of t-Tests Run Between Groups*

|  | 2011 Group (n = 42) | 2012 Group (n = 35) |
| --- | --- | --- |
|  | Pretest | Pretest |
| Mean Score | 79.52 | 80.46 |
| Standard Deviation | 11.54 | 13.43 |
|  | *p* value 0.751 | |

Results of the first comparison between mean scores were documented in Table 1. In this instance, pretest scores from both groups were evaluated. The mean scores for these tests differed by less than one percentage point and the *p* value for that comparison was greater than .05—not

large enough to be considered statically significant. This indicated that the two groups in the sample were reasonably similar.

Table 2
*Posttest Scores and Results of t-Tests Run Between Groups*

|  | 2011 Group (n = 42) | 2012 Group (n = 35) |
|---|---|---|
|  | Posttest | Posttest |
| Mean Score | 81.98 | 87.73 |
| Standard Deviation | 8.61 | 11.52 |
|  | *p* value 0.018 | |

Results from the second comparison were documented in Table 2. Here, posttest scores from both groups were compared. The mean scores for these tests differed by 5.75 points and the *p* value was 0.018—indicating a significant difference. This noteworthy jump in mean score for the 2012 Group indicated that a systematic change in academic achievement might have occurred.

Table 3
*Pretest and Posttest Scores and Results of t-Test Run on the 2011 Group*

|  | 2011 Group (n = 42) | |
|---|---|---|
|  | Pretest | Posttest |
| Mean Score | 79.52 | 81.98 |
| Standard Deviation | 11.54 | 8.61 |
|  | *p* value 0.010 | |

Table 4
*Pretest and Posttest Scores and Results of t-Test Run on the 2012 Group*

|  | 2012 Group (n = 35) | |
|---|---|---|
|  | Pretest | Posttest |
| Mean Score | 80.46 | 87.73 |
| Standard Deviation | 13.43 | 11.52 |
|  | *p* value 0.000 | |

Tables 3 and 4 were used to document the results of comparing pretest and posttest scores within each group.  In juxtaposing the tests scores and $p$ values on these tables, it was found that both groups achieved increases in mean score from the first test to the second.  However, the 2012 Group posted a significantly smaller $p$ value (0.000) than that of the 2011 Group (0.010).  Again, this considerable jump (7.27 points) in mean scores for the 2012 Group indicated that a significant change in academic achievement might have occurred.  The difference between mean scores was large enough to cause the researcher to reject the presumed null hypothesis that there would be no difference in academic achievement between the two groups.

Organizing the above results in table form allowed the researcher to clearly contrast outcomes and assess what implications—if any—the intervention might have had on the group that received it.

**Observed Impact of the Intervention on Student Engagement**

Data collected on observed behaviors indicated that 91% of the 35 students in the 2012 Group either made a comment or asked a question during the intervention, and 51% of students demonstrated content knowledge at this time, compared to 29% of students participating in similar ways during a traditional lecture in week four.  This measurement was also compared to an observed measurement of verbal interaction from students in the 2011 Group during the same week of that year.  Of 42 students in the 2011 Group, 33% were observed to be active participants in week four, suggesting a similar level of engagement within both classes at the pre-intervention stage. The final analysis of observed behaviors took place in week eight for both groups.  Data from this period—the week directly following the intervention for the 2012 Group—indicated  that 68% of students who had received the treatment remained verbally active and 29% demonstrated content knowledge during the more traditionally presented lecture.  These numbers were compared to those collected from the 2011 Group in week eight, which indicated that 29% of students had been

actively engaged and 1% displayed content knowledge during class.  In comparing these observed

behaviors, the writer-researcher recognized substantially larger levels of engagement among students

during and after implementation of the new instructional method than those measured among

students prior to or without receiving it.

Effects of the intervention were immediately observable.  Within minutes of introducing the

new teaching and learning strategy, students in the 2012 Group were noticeably more engaged than

usual.  Increases in verbal participation and positive body language (general attentiveness, sitting

erectly, and leaning in toward the screen) were recognized across the population.  Questions,

comments, demonstrations of critical thinking, and displays of deep learning became common,

rather than isolated occurrences. Such observational findings were encouraging.  They suggested the

intervention's positive impact on student behaviors and added a spark of optimism to the overall

project.  Although they were not the results that provided the most valuable feedback on the extent

to which the introduction of an interactive, dialogue-based instructional strategy would affect

students' demonstrated comprehension and retention of content—that information was obtained by

comparing test scores—these findings substantiated the overall study.

## Discussion

In reviewing the above results, the current writer found that a significant increase in mean

test scores occurred within the 2012 Group after participants received the experimental discussion-

based lesson.  The improvement in mean scores from pretest to posttest for the 2012 Group,

compared to that for the 2011 Group, suggested that the intervention had a positive impact on

learning. This statistically significant outcome—indicated by $t$-test results—also supported the

current writer's originally stated hypothesis that the integration of a new instructional strategy into

the traditional teaching method would be more effective than the traditional method alone in

promoting cognition and increasing achievement.

**Issues of Internal and External Validity**

As with most academic action research, validity was a primary concern in this study. Although steps were taken to ensure valid outcomes prior to the experiment taking place, possible threats to internal validity still had to be considered. The purpose of revisiting the issue of internal validity was to verify the extent to which the independent variable—the intervention—influenced the said outcome. In this particular situation, the writer-researcher expected the most applicable internal threats to be student maturation, the tendency for students to naturally improve as they mature intellectually, and statistical regression, the tendency for students with outlying scores on the first test to score closer to the mean on the second test (Mertler, 2012). An analysis of the results suggested that although maturation was evidenced in the improvement of mean scores from pretest to posttest for the 2011 Group, the substantial difference in scores posted for the 2012 Group suggested that something more critical than a natural, undergraduate learning curve was at work. As for the element of statistical regression, it was not apparent in either group comparison. In fact, the mean score for the 2012 Group shifted so much following the intervention that 70% of students exceeded the mean posted for the previous test.

Even more essential to this study was the concept of external validity, or the extent to which the results of the research can be generalized to other subjects, procedures and settings (Mertler, 2012). Although a single teacher conducted the research and implemented the intervention for one specific course, potential implications of the results were considered in detail. Readers may recall from earlier in this report that much effort was put into assuring parallels between the two groups within the non-probability convenience sample and demonstrating their capacity to represent the population of the whole school. This preliminary inquiry was executed in anticipation of a positive outcome to the quasiexperimental group comparison conducted. Having determined a notable similarity between the sample and the total population, the current writer concluded that

inferences made about the efficacy and impact of the intervention as applied to the 2012 Group

could be generalized to the entire school.  It was also determined that these inferences could be

generalized to other undergraduate art history classes in comparable 2- or 4-year college programs,

to the degree that these other programs and their respective populations resemble those of the

current school.

## Conclusion

In reference to the original research question (To what extent will the introduction of

interactive, dialogue-based instruction into the traditional slide-lecture format of an undergraduate

art history course affect students' demonstrated comprehension and retention of content?), the

current writer determined that the impact of the described intervention on participating students'

cognition and achievement was substantial.  So large was the increase in student test scores

following implementation of the new teaching method that average grades jumped nearly an entire

letter from B- to B+, a trend not only relevant to grade point averaging, but one with serious

implications for undergraduates hoping to transfer course credits to degree programs at other

institutions that only accept grades of C or above.

In addition to test scores and observed behaviors, the results of the open-ended student

survey conducted one week after the posttest was administered overwhelmingly supported this

writer's declaration of success.  Of 34 anonymous responses to the lone question, 100% of students

answered in the affirmative, asserting that the new instructional method affected their studies in a

generally positive way.  Ninety-one percent of these students wrote detailed accounts of the ways

they were impacted, including the following version, which also provided a recommendation:

> "The unknown image review was really exciting for me.  It was a good discussion that built
> my confidence in art history greatly.  The equal verbal interaction throughout the class was a
> nice change of pace and it definitely got the mind off memorization.  This definitely helped
> me study for my exam, because it gave me a knowledge-based way of studying as opposed to
> just the simple stress of remembering numbers and nouns.  Overall, the discussion had a
> positive impact on me and I would recommend this technique to every art history class."

No professionally composed statement could summarize the outcome or suggest future possibilities for this research project more profoundly than that personal testimonial.  According to this student, a connection to content was attained and a genuine knowledge of course material was realized in a single instance of interactive teaching and learning.

All measures applied to this intervention indicated that significant rewards came from one basic modification to instruction.  Results of the study demonstrated that a teaching approach incorporating interactive, discussion-based instruction could be successfully employed in an undergraduate art history course.  In keeping with the theories and findings of other writers in the discipline, including Chanda and Daniel (2000), Way (2007), Desmond (2008), and Rose and Torosyan (2009), this type of instruction was shown not only to benefit students of art history, but to bolster the efficacy of teaching and learning in the field as well.  For advocates of transformative liberal education and art history professors looking to enhance the quality of their students' academic experience, this should come as encouraging news.

**References**

Association of American Colleges and Universities. (2007). College Learning for the New Global

Century: A Report from the National Leadership Council for Liberal Education & America's

Promise.  Washington, DC: Author.

Chanda, J. & Daniel, V. (2000).  Recognizing works of art: The essences of contextual understanding.

*Art Education, 53*(2), 6-11.

Collins, B. R. (1995).  Rethinking the introductory art history survey.  *Art Journal, 54*(3), 23.

Curtis, J. (2001).  The backpack generation and art history.  *Journal of Aesthetic Education, 35*(1), 31-42.

Desmond, K.  (2008). Actively teaching (artists) aesthetics.  *Aesthetics Online.*  Retrieved from

http://www.aesthetics-online.org/articles/index.php?articles_id=39

Dick, W., Carey, L. & Carey, J.  (2009). *The systematic design of instruction* (7th ed.).  Upper Saddle

River,   NJ:  Pearson Education Inc.

Donahue-Wallace, K. & Chanda, J.  (2004). Integrating the best practices of face-to-face art   history

and online teaching.  In L. Cantoni & C. McLoughlin (Eds.), *Proceedings of World Conference on*

*Educational Multimedia, Hypermedia and Telecommunications*.  Chesapeake, VA: AACE.

Donahue-Wallace, K., La Follette, L. & Pappas, A. (Eds.).  (2008). *Teaching art history with new*

*technologies: Reflections and case studies*.  Newcastle upon Tyne, UK: Cambridge Scholars

Publishing.

Doyle, S. K., Edison M. I., & Pascarella, E. T. (2000).  The influence of instructional processes on

student cognitive development. Paper presented at the annual meeting of the American

Educational Research Association, New Orleans, LA (April 24-28, 2000).

Fink, L. D. (2003).  *Creating significant learning experiences: An integrated approach to designing college*

*courses*.  San Francisco: Jossey-Bass.

Gardner, H.  (1983). *Frames of mind: The theory of multiple intelligences*.  New York, NY:  Basic Books.

Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st century*. New York, NY: Basic
      Books.

Getsy, D. (2009). Pedagogy, art, and the rules of the game. In J. Baas and M. J. Jacob. (Ed.).
      *Learning Mind: Experience into Art*. Berkeley, CA: University of California Press. 125-35.

Giedd, J. N. (2004). Structural magnetic resonance imaging of the adolescent brain. *Annals of the
      New York Academy of Sciences, 1021*(1), 77-85.

Halpern, D. F. (2003). Teaching for the future: Fostering the twin abilities of knowing how to
      learn and think critically. Paper prepared for the National Summit on High Quality Teacher
      Preparation, National Commission on Teaching and America's Future. Reproduced in E.
      Crowe (Ed.), *National Commission on Teaching and America's Future*. Washington, D.C.: NCTAF.

Halpern, D. F., & Hakel, M. D. (2003). Applying the science of learning to the University and
      beyond: Teaching for long-term retention and transfer. *Change, 35*(4), 36-41.

Hodge, D., Baxter-Magolda, M. & Haynes, C. (2009). Engaged learning: Enabling self-authorship
      and effective practice. *Liberal Education, 95*(4), 16-23.

Holcomb, Z. (2007). *Interpreting Basic Statistics* (5th ed.). Glendale, CA: Pyrczak Publishing.

Johnson, D.W., Johnson, R. T., & Smith, K. A., (1991). Cooperative learning: Increasing college
      faculty instructional productivity. ASHE-ERIC Higher Education Report No. 4.
      Washington, D.C.: The George Washington University, School of Education and Human
      Development. 127-137.

Jones, K. & Jones, J. (2008). Making cooperative learning work in the college classroom: an
      application of the 'five pillars' of cooperative learning to post-secondary instruction. *The
      Journal of Effective Teaching, 8*(2), 61-76.

Lindner, M. (2005). Problem-based learning in the art-history survey course. *Newsletter of the College
      Art Association, 30*(5), 7-9; 41-43.

Luna, B., Thulborn, K. R., Munoz, D. P., Merriam, E. P., Garver, K. E., Minshew, N. J., et al. (2001).

Maturation of widely distributed brain function subserves cognitive development. *NeuroImage, 13*(5), 786-793.

Luna, B., & Sweeny, J. A. (2004). The emergence of collaborative brain function: FMRI studies of

the development of response inhibition. *Annals of the New York Academy of Sciences, 1021*(1),

296-309.

Mayer, R. E. (2008). Applying the science of learning: Evidence-based principles for the design

of multimedia instruction. *American Psychologist, 63*(8), 760-769.

Mengel, T. (2010). Learning that matters: Discovery of meaning and development of wisdom in

undergraduate education. *Collected essays on Learning and Teaching, 3*, 119-122.

Mertler, C. A. (2012). Action *Research: Improving Schools and Empowering Educators.* Thousand Oaks,

CA: Sage Publications, Inc.

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and

Continuing Education, 74*, 5-12.

Mezirow, J. (2000). Learning to think like an adult. In: J. Mezirow (Ed.) & Associates, *Learning as

Transformation: Critical Perspectives on a Theory in Progress,* 3-34. San Francisco: Jossey-Bass.

Moreno, R., & Mayer, R. (1999). Cognitive principles of multimedia learning: The role of modality

and contiguity. *Journal of Educational Psychology, 91*, 358–368.

Perry, W. (1970). Forms of Intellectual and Ethical Development in the College Years: A Scheme.

New York, NY: Rinehart & Winston.

Phelan, P., Concannon, K., Costache, I. D., Desmond, K., Little, D., Shipps, S. & Papaelias, A.

(2005). Art history survey: A round table discussion. *Art Journal, 64*(2), 32-51.

Rose, M. & Torosyan, R. (2009). Integrating big questions with real world applications: Gradual

redesign in philosophy and art history. *New Directions in Teaching and Learning, 119*, 61-70.

Russell, M. & Airasian, P.  (2010). Classroom *assessment: Concepts and applications.*  (7th ed.)  New York, NY: McGraw-Hill.

Sandell, R. (2005).  Inspiring pedagogy: The art of teaching art.  *Newsletter of the College Art Association, 30*, 6-7; 40.

Selen, E., Erk, G., and Wilson, C. (2007).  Teaching Art History to Design Students.  *International Journal of the Humanities*, *5*(7), 65-72.

Sowell, J. E. (1991).  Learning Cycles in Art History.  *College Teaching*, *39*(1), 14-19.

Umbach, P. D. & Wawrzynski, M. R. (2005).  Faculty do matter: The role of college faculty in student learning and engagement.  *Research in Higher Education*, *46*(2), 153-184.

Vermette, P. J. (1998).  *Making Cooperative learning Work: Student Teams in K-12 Classrooms.*  Upper Saddle  River, NJ: Prentice Hall.

Vygotsky, L. S. (1978).  Mind and society: The development of higher mental processes.  Cambridge, MA: Harvard University Press.

Way, J. (2007-2008).  Foundations art history and the graduate seminar.  *FATE in Review, 29*, 23-30.

## Appendix A

### Art History II Interactive Discussion-based Lesson Plan

| **Instructional Goal** |
| --- |
| In applications of both oral and written assessment, learners will demonstrate knowledge of the Middle Ages (Early Medieval, Romanesque and Gothic), including individual artists, artworks, stylistic characteristics and sociopolitical context, by identifying and describing recognized features of each. |

| **Objectives** |
| --- |
| These objectives are for a single period, 75-minute comprehensive review.

Students will be informed of the specific purpose of the lesson and the Instructional Goal (in formal and conversational terms) when they arrive in class.  Announcing to students what they will accomplish in the lesson is very important, because they will all be eager to acquire useful new strategies before taking their first unit test.  The significance of this lesson will need little explanation other than:  *"If you know enough to recognize and describe the unknown works we are about to explore today, you will surely be able to recognize and describe required images in a test situation."*  The methods highlighted in this unit will help students gain self-confidence by allowing them to express knowledge in a way that does not require rote memorization.

For this single class lesson there is one objective for each step listed in the Instructional Plan.

Objective 1
In response to teacher's request, students will prepare for a review session by locating, selecting and organizing pertinent contextual information (class & textbook notes, slide lists and handouts) that will be most useful as resources/references for the upcoming discussion.

Objective 2
As active participants in a slide/lecture discussion, students will consider and interpret required familiar images in order to identify artists, titles, styles, dates and historical contexts that characterize the period.  Students will be able to accurately describe and differentiate at least 7 of 10 slides shown.

Objective 3
As active participants in a slide lecture discussion, students will analyze a selection of unknown images by listing the formal qualities common to both these new images and images with which they are already familiar.  Not only will students be able to list at least five shared characteristics, they will begin the process of transferring pre-existing knowledge to associated content.

Objective 4
As active participants in a Socratic Questioning group discussion, students will collect, combine and organize new and existing information about art of the 6th -13th centuries by answering probing and clarifying questions offered by the teacher.  By applying existing knowledge to unknown imagery, students will demonstrate essential higher order thinking skills and practice self-regulation. |

Objective 5

Given one selected unknown image, students (working together as a class) will apply cognitive skills acquired through the Socratic Questioning exercise to identify and describe the image. Students will be able to provide at least 5 facts about the unknown image.

Objective 6

Given several more unknown images, students will informally (in small groups) practice identification of the works in order to duplicate and reinforce their newfound learning strategy. For each example, students will be able to express at least 5 accurate, descriptive statements.

Objective 7

Taking cues from the review method presented ( I.e. discovery through examination and evaluation of unknown imagery and Socratic Questioning), students will formulate personal strategies for recognizing artwork. Students will record and self-assess their plans in a brief written document.

Objective 8

Given an oral assessment, students will apply their strategies to recognize and identify significant features of any given artwork from the periods studied. Correct answers and explanations will determine effectiveness of strategies and achievement of this goal.

Notes.

As the lesson begins, with a very basic review of familiar content, student's existing knowledge will be verbally tested and noted by teacher. Clues about what information will be necessary for subsequent steps will be provided by teacher. As stated in Objectives 6, 7, & 8, repetition of skills and methods will be a major part of instruction, as will a simulated (probably oral, depending on time) assessment.

There will not be an individual posttest for this lesson. Rather, there will be a formal unit test administered during the next class meeting —which was the purpose for this review in the first place

## Instructional Strategies

### Pre-Instruction

-Students will be informed of the specific purpose of the lesson and the Instructional Goal (in formal and conversational terms) when they arrive in class. Announcing to students what they will accomplish in the lesson is very important, because they will all be eager to acquire useful new strategies before taking their first unit test. The significance of this lesson will need little explanation other than: "If you know enough to recognize and describe the unknown works we are about to explore today, you will surely be able to recognize and describe required images in a test situation." The methods highlighted in this unit will help students gain self-confidence by allowing them to express knowledge in a way that does not require rote memorization.

-Students will be motivated to participate in this learning experience by their collective desire to perform well on the upcoming unit test.
-Since teacher will have had prior experience in presenting unknowns and leading Socratic question sessions, she will encourage students by describing the ways in which the new study technique will help them gain a deeper understanding of subject matter.
-The Instructional Goal of the lesson is stated in both formal and conversational terms.
- Objectives are introduced so that students know what to be expected as the lesson proceeds.
-General advice on ways to participate (listening, speaking, questioning. . .) and how to get the greatest benefit from the lesson (note taking, lists, and more discussion) are offered.

**Instructional Plan / Content Presentation**

The sequence progresses in a logical order from fundamental skills to higher level, critical thinking and metacognitive skills. Steps proceed in direct correlation to numbered Objectives.

Step 1
Instruction: Lesson begins by preparing for the review. Under teacher's supervision, all slide lists, handouts, class and texts notes will be made available and organized. This step sounds simplistic but it is very important to the review and the intended outcome of self-directed, independent learning.

Step 2
Instruction: Students will actively participate in a typical, teacher-led, visual/verbal review of required images. As they examine each image, they will refer to a slide list/ review sheet--designed specifically for this lesson—that was handed out at the beginning of class. Students should be able to recognize and list key elements of at least 70% of these familiar/required images.

Step 3
Instruction: In same format as Step 2, students will be shown several unknown images by known artists from the Medieval & Gothic periods (Gislebertus, Giotto, etc. . .). Teacher will select images that closely parallel known works and represent recognizable techniques and stylistic tendencies.

Students will be asked to analyze the images and apply their prior knowledge of style, technique and historical context to these unfamiliar works. They will be asked to list at least five characteristics shared by known and unknown works.

This step begins the process of transferring existing knowledge to associated content.

Step 4
Instruction: Class group continues the study of unknowns. Teacher leads the informal analysis into a more critical stage by hosting a Socratic questioning session that inspires deep learning and critical thinking.
Through a series of questions and answers, teacher models for students how to extract information from their own cognitive stores.

Sample questions for an unknown painting or sculpture:
1. What technical/stylistic elements do you recognize in this work?
2. Do any of these features suggest the work of a specific artist?
3. What else about this work reminds you of that artist?
4. When was that artist working in this style?
5. Can you surmise a subject?

By answering such questions, students will acquire skills in analyzing artwork through a problem-solving approach to learning.

Step 5
Instruction:  Examining one of the same images used in Step 4, students will now be asked to determine exactly who produced the painting, the subject matter, a likely date, and the historical circumstances surrounding its production.

Step 6
Instruction:  Teacher will step back and allow students to work in small groups to practice analyzing several more unknown images and attempt accurate identification.  The types of questions and methods for discerning information will be left up to the students.  For each example given, students will be required to write five accurate descriptive statements.

Step 7
Instruction: Slideshow will cease and students will be asked to work independently.  Each student will formulate a practical & reliable method that they can use to recognize and identify historic art.  They will be asked to document this methodology in a brief, bulleted or step-by-step outline.

Step 8
Instruction:  In an informal oral assessment (simulating a test question) students will be asked to tryout their new method of identifying a work of historic art.


**Learner Participation**

-The entire lesson is based on active engagement and vigorous participation through stimulating questions, answers and discussion.
-Students are provided with numerous opportunities to practice and tryout new skills.
-Teacher provides constructive criticism and feedback as an active contributor in the discourse.
-Teacher provides positive reinforcement for learning new skills.


**Assessment Strategies**

-Teacher assesses students through observation of participation and simple written exercises.
-Post assessment of the lesson and the unit is a test scheduled for the next full class meeting.


**Follow Through (Closure)**

-Teacher reminds students of what needs to be recognized and recalled for unit test.
-Teacher advises students to use the method they outlined and practiced as a study aid for the unit test and for future studies in art history.