A Case Study in Integrating the Best Practices of Face-to-Face Art History and Online Teaching*

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ABSTRACT.   Distance learning courses have for the most part made use of simple structures that focus on the juxtaposition of html texts with static visuals. Instruction in art history demands more. It requires a type of interaction described as performative triangulation, which naturally occurs in traditional art history face-to-face lecture courses. The authors contend that this type of performative triangle model, which consists of interaction between the audience, speaker, and image, is possible in an online art history course if animated interactive activities are provided to engage students in linking texts and images. This paper presents data from two studies conducted on interactive animations in an online art appreciation course. The first study compares student learning of identical content in a face-to-face lecture without an interactive component, a face-to-face lecture augmented by an animated interactions, and an html content module also augmented by an animated interactive. The data from this study suggests that learning occurred just as well, if not better, among students provided with the animated interactives as among students offered only the face-to-face lecture. The second study considers student perceptions of the animated interactions and assesses whether students believe that they learn from these tools. This data suggests that students view the animated interactions as assets to the learning experience.

KEYWORDS: Art history, Best practices, Case study, Online academic course, Virtual gallery

Introduction

As a discipline, art history has been slow to embrace distance learning. American colleges and universities offer comparatively few online art history courses when compared to business, the sciences, education, and even other humanities disciplines. And while there has been much scholarship published recently that interrogates teaching with digital images (DeBenedictis, 1995; Lavin, 1997; Cohen, 1997; Besser, Yamashita, 1999; Hamilton, 1999; Schmidt, Blackmon, Rehak, Bajzek, 1999; Pitt, Updike, Guthrie, 2002) and on the merits of digital images compared to slides (DeBenedictis, 1995; Bruce, 1996; Elkins, 1997; Schwartz, 1997; Rhyne, 1997), there is less information available on teaching art history

online (Briggs, 1997; Maddox, 1997). Interested faculty are consequently left to forge their own paths into Cyberspace, knowing that this effort is usually not recognized by their peers. Yet, teaching art history online offers numerous opportunities to improve pedagogical effectiveness. It likewise offers faculty a means to improve the learning experience through a variety of pedagogical tools.

In May 2002, the instructor began planning an online Art Appreciation course (ART1300 online) to be offered in fall semester 2003. As a university course, the ART1300 online section needed to present content that was as rigorous and pedagogically sound as the face-to-face class, which enrolls over 600 students per year. The instructor found existing online Art Appreciation courses wanting in their pedagogy; most simply required students to read a text, search the web and write an essay. The interaction with images that the instructor considered key to art history pedagogy was missing. At the same time, neither the instruction materials provided by the university's Center for Distributed Learning nor existing manuals of online course preparation and instruction addressed art history's unique needs. The instructor consequently looked to other sources, including museum websites, for models of how to engage the work of art in an online environment. The result was a series of interactive animations that accompany html course content.

Art History Pedagogy

Primary among art history's demands is visual literacy, meaning the ability to approach visual materials not as scientific documents or objective records of past events, but as a form of communication and creative endeavor. Art historians model visual literacy skills in their courses, teaching their students to read works of art as complex sign systems that vary by artist, era, location, and purpose. This modeling behavior, either involving single examples or, more commonly, paired works, allows students to appreciate the subjective nature of artistic production and interpretation. Repeated modeling offers students the tools they need to apply accepted interpretive strategies to unknown works. Art history rejects the possibility that students can develop these visual literacy skills by reading texts and viewing images on their own.

On the contrary, art history has developed the slide lecture format for teaching, in which the instructor stands in a darkened room before a single slide or pair of projected images. The instructor looks at and talks about the images, modeling accepted interpretive strategies. This lecture style, called a "performative triangle consisting of speaker, audience, and image" (Nelson, 2000), teaches students to look at length at the work of art. The instructor's interaction with the image locates it as the prime member of the relationship, not a picture to be glanced at, but a text or

body of information to be dissected and read. As the instructor moves to the projected image, she points to selected areas and engages the image physically.

Since reading alone and discussing salient questions are the hallmarks of distance education pedagogy, it would seem that art history is unsuited to online teaching. The challenge in creating the online ART1300 course, therefore, was to achieve the objectives of the face-to-face lecture in an asynchronous online environment. Some may argue that the model of the face-to-face lecture should not be translated into a distributed learning format since discussion-based and other active learning models have been shown to be more suitable for online teaching (Foshay, 2002). But such a radical pedagogical shift for developing online courses may not be appropriate for art history. Only a handful of art historians have published discussions of alternative methods for face-to-face classes (Sowell, 1991; Russo, 1995; Maddox, 1997) and their models have not found wide approval; even fewer publications address new models for online art history (Halsey-Dutton, 2002). Nor do the current online art history courses requiring students to read a text, search the Web, and write an essay constitute good teaching, according to art historical traditions. Recent research (Mayer, 1997) has demonstrated instead the effectiveness of the simultaneous multimodal presentation of verbal and visual information, particularly for the transferal of learned knowledge to new situations. Therefore, the strategies employed to translate ART1300 into an online format attempt to simulate aspects of the widely-practiced face-to-face teaching method described above, maintaining as much as possible the inextricable relationship of visual and textual information and retaining the image's privileged status. At the same time, these tools employ distributed learning's best practices, especially interactivity and student direction (Mehrotra, Hollister, McGahey, 2001), and function alongside the course's distance teaching tools, including discussion forums, chat rooms, links to related sites, well-conceived group and individual assignments, and frequent student-faculty communication.

The Online Course

Much of ART1300 translates the spoken lecture into html text presented in judiciously portioned, richly illustrated learning modules. To avoid long download delays, the content pages contain thumbnail images linked to large, high-quality views - some permitting zooming and panning - stored in the school's visual resource collection and a fee-based database. The thumbnails are arranged on the html page much like a paired-slide lecture, with comparative examples seen together. The course also includes streaming video of commercial films, acquired according to fair use guidelines, and demonstrations of artists' techniques and processes filmed

locally. The online art appreciation course also employs 19 animated interactives developed with Macromedia's Flash program, developed to replicate the synchronous presentation of the slide lecture. These interactives facilitate the attainment of course objectives and content. For example, two games ask students to simulate an artist's creative process by answering a series of questions on materials and principles of design. In the architecture game students select building type, materials, and aesthetic qualities, then see the completed building installed in a landscape. In another game, concerning Hindu and Buddhist images, an animated figure of a young woman acts as the student who is required to answer questions addressing iconography learned from the lesson. The student, in the form of the animated young woman, can only walk to the next room or gallery (there are seven in all) if she answers the questions correctly (Figure 1). These simple games enable the translation of a slide-based lecture into a dynamic interactive online experience in which the student plays an active role in seeing the relationship between text and images work.

The second model, and the type tested here for its ability to teach concepts, is motion graphics, in which a digitized work of art is made interactive. The simplest examples use "hot zones", whereby a detail view and/or accompanying text emerges from the digital reproduction as the student passes his/her mouse over the target area. Animated lines, arrows, or other instructional devices can be superimposed to direct learning. This model also works with comparative examples, in which two images with hot zones are paired and examined against each other. Hence the student sees the image first, has the opportunity to look without interference, then proceeds to the information at his/her own pace. And when text appears, it is superimposed over the image or located beside it, much like a spoken lecture, so that visual and verbal information appear to the student simultaneously. Finally, highlighting portions of the image directs the student's attention akin to the stick or laser pointer touching relevant passages of a projected image in a face-to-face lecture. The performative triangle in this model gives both the instructor and students an asynchronous active role. 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? Of what pedagogical value are the interactive components? Do students perceive to learn from them? These and other questions were the guiding factors for the following experiments.

Figure 1
Virtual Gallery of Hindu and Buddhist Art.
Content by Kelly Donahue-Wallace.
Designed by Prabha Roger
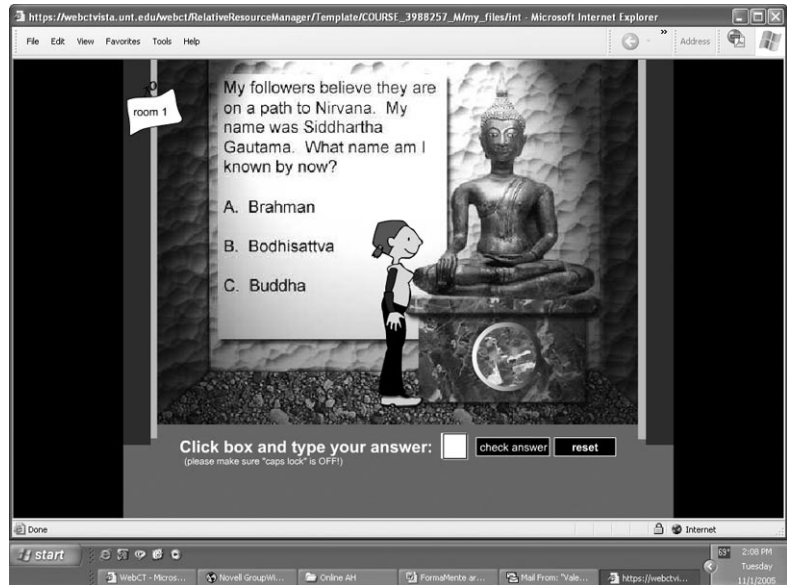
The Study

The study was conducted in two parts. The first part focused on the effects of an animated interactive component on mastery of art history content, while the second part addressed student perceptions of role of the interactive components in their learning.

PART ONE OF THE STUDY:

In the first part of the study 19 senior art history students were divided into three groups using a systematic sampling process. Initially there were six students in two groups with seven students in the last group. There were two experimental groups and one control group. In order for the data to be comparable, one student's response sheet was randomly dropped from the face-to-face interactive animation group, which contained seven students. All groups were presented a module about the architecture of mosques, a topic about which none had any formal education. The control group experienced a traditional face-to-face slide lecture with no animated interactive component. One experimental group experienced a face-to-face lecture and an animated interactive component (Figure 2), while the second experimental group read the online html lecture and completed the animated interactive component. One instructor taught all three groups, all experienced identical lecture content, and all viewed the same images either online or in slide format. The independent variable was the animated interactive component while the dependent variables were the three short answer tests questions asked at the end of the module.

PART TWO OF THE STUDY:

The second part of the study used students currently enrolled in the course. A questionnaire available for response for five days asked questions about the students' perception of the role of the interactive components in their learning experience. The questions addressed different types of interactive course components, including streaming video and interactives made with Flash. When the survey was conducted, the students had completed roughly one third of the course, including the lessons on two- and three-dimensional art, architecture, and the theme of Survival as addressed by artists around the globe. Forty-six of 167 students who logged in during the survey period responded to the questionnaire. Although not included in this analysis, student responses continued to arrive throughout the remainder of the course and these reflected the same perceptions analyzed below.

Data Analysis and Findings

PART ONE:

Because the sample in the first part of the study was too small only a percentage analysis was undertaken. The data was scored in two different ways. First, the answers to the three questions were scored according to whether the student answered the question correctly or not. The second analysis dealt with the quality of the correct answers by looking at the use of appropriate terminology. Consequently, an answer such

as the Mihrab is a directional finder for prayer to Mecca received three points (directional finder, Mecca, and prayer) while an answer such as "a marker to point the way to Mecca" only received two points (marker to point the way and Mecca). In this particular case, the first response demonstrated clearer mastery and understanding of the content, while the second one demonstrates partial understanding. The three questions were, "what is a mihrab niche, what is the plan of a mosque based on, and what role does the minaret play?"

The first analysis would suggest that all groups performed at an acceptable level with 77% of the total answers in the control group and 94% of the total answers in the face-to-face lecture/online animation and the totally online group being correct. Figure 3 shows the distribution of the answers by questions. While these scores are not statistically significant, they do indicate that the two experimental groups scored higher than the control group. The use of the interactive animation seems to make a difference in how well students retain information in relation to the function of aspects of the mosque.

Figure 3
Distribution of scores for each question

Questions	Control Group	Face-to-Face/ Online Group	Totally Online Group
Mihrab Niche	83%	83%	100%
Plan of Mosque	83%	100%	83%
Role of Minaret	66%	100%	100%
	77%	94%	94%

The second analysis, which focused more on the quality of the correct answers, indicates that all of the groups were able to use appropriate terminology, however, the two experimental groups showed a higher use of appropriate terminology than the control group. For example, the two experimental groups, face-to-face/online and totally online, scored about the same 72% and 70% respectively on the mastery of terminology. In the control group only 59% of the answers indicated a mastery of vocabulary. The distribution of scores indicates that the second question concerning the plan of the mosque was the easiest one to answer (see Figure 4).

Figure 4
Distribution of scores for mastery of terminology

Questions	Control Group	Face-to-Face/ Online	Totally Online
Mihrab Niche	11	6	13
Mosque Plan	12	18	13
Role of Minaret	9	15	12
	59%	72%	70%

<u>Part Two:</u>
Students described their experiences with two major types of interactive components: streaming videos and Flash animations (not broken down by type, such as game or motion graphics). Approximately 51% of the respondents preferred the streaming video even though many of them thought it was the least valuable because of technical difficulties. Of the 45% who preferred the Flash interactive components most chose the activity that allowed them to build a house because it provided some self-directed learning opportunities. One person states, "the one that allows you to make your own building was great. It helps you get the feel of what goes into the design and reinforces the building construction terms at the same time". What was most revealing is that students recognized how the interactive components improved their learning because they cater to multiple types of learners, the visual, kinesthetic, and the self-directed learner. One visual learner says, "it's easier to remember something when you see it. I'm a very visual person, so seeing pictures and videos always helps me to understand". Another says, "Im (sic) a visual leaner and when I can see things like the videos and interact it helps me to learn easier and better!". One kinesthetic learner indicates, "I enjoy the Activity interactives the most because I learn best through doing something". Another says, the interactives "let me explore the information better. It's as if I am getting hands on work and it helps me understand the lesson better". Many appreciated the constructivist approach that allowed them to select what or how they wanted to learn about a concept. One student says for example, they "allow me to pick different examples of the concepts and then watch them". Another says, "they let you chose (sic) what you want to do (Like build a house) so you get to see the different parts of art not just in one form, but you can switch them up". Furthermore, in answer to the question of whether they believed that the interactive course components contributed to their learning experience, 70% of respondents replied in the affirmative. Many students noted their appreciation of the instructor's willingness to take the extra time and expense required to develop these tools, and viewed her efforts as evidence of her dedication to teaching.

Discussion

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? The data would suggest that art history students learned as much if not a bit more from interactive animations as they did from face-to-face spoken lectures and text alone or in combination. These results, although not scientific, suggest that students acquired the same information in all three formats. Based on the scores, however, the face-to-face/online

group would appear to be at an advantage for their scores in the use of appropriate terminology appear to be higher by a small margin than those of the other groups. This information would support the idea of using textual information (either spoken in the face-to-face lecture or read in the html lesson) with interactive animation to reinforce learning and as a means of helping students attain the goals of art history instruction. As one test subject wrote, "I liked the interactive part because it reinforced the terms and concepts by highlighting the parts of the structure associated with the terms". Another student wrote, "I liked the text with the picture - it helped connect a visual with an idea in my mind". Hence the art historian's fear that students do not learn in online courses may be mistaken. Furthermore, analysis of the currently enrolled students' perceptions reveals that regardless of real learning outcome, students appreciated the presence of the interactives, felt that they accommodated different learning styles, and generally supported the learning experience. Art historians interested in accommodating student interests and in transforming their courses into more student-directed experiences should consequently consider introducing these interactions into their online courses.

Conclusions

The purpose of this paper was to discuss the need for altering the online format to accommodate the unique needs of art history instruction and to share the development of an online art appreciation course that made use of a performative triangle model, which includes interaction between audience, image, and speaker. After the course was created, an experiment was implemented to determine if the performative triangle model in the online course, which called for animated interactives, provided a learning experience that was equal to or better than that experienced face-to-face art history course. A second component of the study reviewed student perceptions of the interactives' usefulness. While the results of these experiments are not wholly scientific, they do allude to the possibility that an online course with animated interactives can facilitate learning in art history in the same manner as the learning that takes place in a face-to-face environment. In addition, the interactive components reaches different types of learners who are not art students, something that the large lecture courses often are not able to do. In this art appreciation course, visual, kinesthetic, and self-direct learners were able to grasp a deeper understanding of concepts and information. While anecdotal information based on student perceptions provides insight into the effects of interactive components in learning, further empirical research is needed that would compare an online course that does not contain animated interactives with one that does to see if truly it is the interactives that effect student learning.

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Sintesi

La maggior parte dei corsi di apprendimento a distanza, fino ad oggi, fa uso di strutture elementari, basate sulla sovrapposizione di testi elaborati in html con immagini statiche. Lo studio della storia dell'arte richiede invece un particolare tipo di interazione o triangolazione performativa, che avviene naturalmente nei corsi di storia dell'arte in presenza. Questo modello di interazione performativa triangolare, formata dall'interazione tra l'audience del corso, il docente e l'immagine, può essere riprodotto in un corso online attraverso attività animate ed interattive che impegnino gli studenti a collegare testi e immagini.
I dati tratti da due ricerche sulle animazioni interattive, utilizzate all'interno di corsi di storia dell'arte, forniscono informazioni interessanti sulla funzione di tali applicazioni per l'apprendimento della materia. La prima ricerca confronta il modo in cui gli studenti hanno appreso gli stessi contenuti attraverso tre modalità differenti: un corso in presenza privo di componenti interattive, un corso in presenza in cui si utilizzano elementi di interazione animata e, infine, un modulo elaborato in html corredato di interazioni animate. I risultati di questo studio confermano che l'apprendimento degli studenti a distanza è stato pari, se non superiore, a quello degli studenti del corso in presenza. La seconda ricerca si concentra, invece, sulla percezione che gli studenti hanno delle animazioni interattive e valuta il loro livello di consapevolezza circa l'utilità di tali strumenti. I risultati evidenziano che per gli studenti le animazioni interattive rappresentano delle risorse positive per l'apprendimento.