

## **Playing Art Historian: Teaching 20<sup>th</sup> Century Art through Alternate Reality Gaming**

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### **Abstract**

While technological advancements have brought changes in pedagogy to a range of disciplines, many of the fundamental elements of teaching in art history have remained consistent. However, the traditional model of lecture and slide recognition transfers poorly into online environments, and new modalities of courses offer opportunities to revisit and reconsider these models. In the spring of 2014, the authors, Keri Watson, a professor of art history, and Anastasia Salter, a professor of digital media and game design, collaborated to create a game for use in an upper-level course on twentieth-century art history at the University of Central Florida. The course was designated as mixed mode, meeting for an hour and fifteen minutes in person once a week as a lecture with the remaining content delivered online through Webcourses, a Canvas-driven learning management system. Canvas offers many of the fundamental features of learning management systems, including discussion boards, student groups, and content structures, which can be used to augment the course experience. A course of this kind presents a range of technological and pedagogical challenges and opportunities, particularly when presented to a group of sixty students. Thus, the authors collaborated on the design of an alternate reality game (a virtual-physical game hybrid using a narrative to build an experience) to transform the course from passive to active and to further explore the potential of online learning. In this semester-long pilot, Watson and Salter ran and evaluated a prototype of an original game entitled "Secret Societies of the Avant-garde." This experiment in playful learning for art history drew on inspirations from gaming and digital pedagogy. In this overview, we will contextualize our approach to designing the game, and analyze our processes and outcomes.

**Keywords:** modern art; education games; alternate reality; pedagogy

### **Introduction**

The increasing demand for online learning and the interest in the new learner instigated by Marc Prensky's construction of the digital native have brought with them increased attention to the possibilities of computer games for learning (Prensky, 2001). While the notion of the digital native is fundamentally flawed, and assumes a mastery of technology that is not inherent with the use of interfaces that is all that most students achieve, the reality of increased access to and expectations of digital technology remains. The concept of the so-called "digital native" is thus most helpful in considering the types of environments and technologies that are integrated into the common experiences of students today. Among these, video games have over the past several decades attracted increased attention from the educational community, beginning with *Oregon Trail* (Minnesota Educational Computing Company, 1974) and rising in higher education through more recent games

that make use of web platforms and communities. Unfortunately, current pedagogical experiments outside of commercial game design often fall under the rubric of gamification: the application of game mechanics to tasks that are not inherently game-like. Such games often focus on the reward mechanisms of games (levels, points, experience, achievements, and other structures) rather than on the mechanics that power games as spaces for exploration, critical thinking, collaboration, and the investigation of new perspectives.

Game mechanics demand thoughtful design that transforms the experience of content in the classroom: rather than merely “gamifying” content, such design requires rethinking a course and its foundations. Designing games that move beyond gamification to take advantage of this potential requires attention both to theories and structures of game design and to the pedagogy of a related content area. Thus, while there are many great educational games, notable examples include: *Half the Sky* (Frima Studios, 2013, Web), a Facebook game exploring the oppression and opportunities of women around the world; *A Closed World* (Gambit Game Lab, 2011, Flash), a game exploring the challenges of a queer identity in a hostile environment; and *Evoke* (World Bank Institute, 2010, Web), a game bringing students together to combat world water shortages, there are still many disciplines whose content lends itself to playful exploration that have not yet engaged thoroughly with games.

For example, relatively few games have been developed for art history, even at a time when visual literacy is viewed as a key skill for the twenty-first century. Most games that engage with art focus on either creative skills or the acquisition and assignment of value to art. Notable examples of games for art creation and creativity include: *Mario Paint* (Nintendo, 1992, SNES), a gamified pixel art making and animation tool; *Crayola Art Adventure* (Leapfrog, 2014, LeapPad), a game with puzzles and shape skills; and similar titles generally aimed at young children. Only a few games notably engage with aesthetics for an older audience: *Okami* (Clover Studios, 2006, PlayStation 2) has the player use brushstrokes to restore color to a beautiful sumi-e style world while *Splattershmup: A Game of Art & Motion* (RIT Magic Center 2014, PC) imitates the procedures of gestural brushstrokes and abstract splatters through platformer gameplay. Games on history, on the other hand, are relatively common but rarely address art specifically. Some examples (aside from the ubiquitous *Oregon Trail*, most recently remade as a Facebook game) include *Mission US: A Cheyenne Odyssey* (Thirteen, 2013, Web), a game depicting westward expansion from the perspective of the Cheyenne; *80 Days* (Inkle Studios, 2014, iOS), an alternate history steampunk game about world travel; and the *Reacting to the Past* series, a series of historically-situated role-playing games designed for use in the classroom by Mark C. Carnes.

These games differ in their technologies and platforms, but all tend to place the player back in time in an interactive context. *Reacting to the Past* in particular serves as an example of the potential impact of intentionally-designed classroom games on student engagement (Lightcap, 2009). However, only one of the *Reacting to the Past* modules, “Modernism vs. Traditionalism: Art in Paris, 1888-1889,” is appropriate for teaching art history, and the classroom-based style of roleplaying is difficult to scale for large classes.

Creating games that leverage the power of game mechanics to create transformative experiences are at the center of game development movements (Bogost, 2011). The work emerging from the “Games for Change” and serious games communities (such as Games + Learning + Society, University of Wisconsin-Madison) is particularly helpful in addressing an apparent contradiction between games and educational objectives, as traditionally the idea of “fun” has fallen into a separate space from that

of learning. Tellingly, many games from the first generation of educational games were labeled as “edutainment,” a fusion that pushes a false binary of education and entertainment as oppositional. This ignores what we already know about the power of video games as learning spaces, even when they are designed or billed primarily as entertainment, while also perpetuating the myth of education as something to be suffered rather than enjoyed. The philosophy of game design that often accompanies the edutainment label has been referred to by Amy Bruckman as “chocolate covered broccoli,” and often involves poorly disguised drills and other traditional pedagogical methods (Bruckman 1999). Instead, effective game mechanics integrate mastery of skills and application of knowledge in the face of obstacles. As Eric Klopfer has pointed out, this integration allows for mechanics of learning that are intrinsic to the game and the content. As he writes, “Through game playing, students learn how to collaborate, solve problems, collect and analyze data, test hypotheses, and engage in debate” (Klopfer 2008). Notably, this evaluation of the potential of games does not focus on the deployment of games as a way to master content. While including educational material in the game is expected and can be beneficial, many of the best educational outcomes of games are peripheral to that content.

### **Method**

The goal of our initial design prototyping and classroom testing was to discover and explore the possibilities for a mixed-mode art history intervention. Given those goals, we planned a multi-stage process of deployment and assessment of an iterative prototype. Prior to designing the prototype, we examined existing educational games and approaches to art history pedagogy (as previously assessed), combining our cross-disciplinary backgrounds to build a solution drawing on existing knowledge. While deploying the prototype in Spring 2015, we monitored classroom outcomes and projects in comparison to the learning objectives of the course. We created a survey (included here as an appendix) to evaluate student’s perception of their experience through reflection following the completion of course content. The survey was administered through Webcourses and drew participation from 29 students representing 48% of enrollment in the class. Based on the results of the survey and assessment of student outcomes, we developed a second iteration of the prototype, currently under evaluation in the Fall 2015 iteration of the same course. The outcomes from this multi-stage process can be used to further inform the design of game-based solutions for art history as a discipline.

### **Discussion**

#### *Designing an Art History Game*

As no existing game met our needs for a course on twentieth-century art history, we designed and developed an interactive online game aiming to reach beyond gamification to engage players in the study of twentieth-century art. Our game, “Secret Societies of the Avant-garde,” is an alternate reality game that employs the game mechanics of flow, interest, enlightenment, and empathy; increases student engagement and visual literacy; builds community through cooperation and competition; and simulates complex problem solving through the study of twentieth-century art. It was developed through a collaboration between game design, content expertise, and pedagogy, with particular attention paid to the pedagogical constraints and possibilities of online spaces as informed by the study of games and virtual worlds. This game, which was built and deployed for use in an upper-level art history course, has benefitted students at the University of Central Florida but has the potential to reach an international audience through future iterations of the project.

Creating games that create this potential for learning experiences not afforded in a traditional classroom requires creative thinking and a close examination of the course materials and outcomes for

appropriate connections. As Kurt Squire notes, “good games find ‘the game in the content’” (Squire 2011). Finding the “game in the content” is the direct opposite of gamification: as designers and educators we have to look beyond models such as classroom Jeopardy, quiz games, or leveling up and achievement systems for games that clearly relate to the course content. In the context of designing a game for a twentieth-century art history course, there are many inspirations to work with. Games, play, and interactivity have had a significant role in modern and contemporary art movements including Dada, Surrealism, Situationist, Fluxus, Performance, Process Art, Installation Art, and Conceptualism. From Marcel Duchamp’s chess games to Lygia Clark’s puzzles to Allan Kaprow’s happenings, artists of the twentieth century adopted and adapted the structures of play to challenge cultural mores and to investigate a range of themes from identity and the body, to time and space, to science and spirituality. Twentieth-century artists used play and participatory projects to challenge traditional media, to respond to political upheaval, and to instigate social change. “Secret Societies of the Avant-garde” was designed to mirror this dynamism while meeting the following course learning objectives:

1. Question the continually changing category of experience that comprises the notion of art itself
2. Recognize a core group of images within twentieth-century art and interpret these works within the socio-historical and cultural context of their production
3. Develop the skills of critical reading, visual analysis, and written expression

Our goal was to create a game that incorporated the mechanics of game design, the learning objectives of the course, and that captured the spirit of twentieth-century art.

The first stage of the project required a close evaluation of the materials and content of the course to find the “game in the content.” Inspired by the parallels between the adventure game genre and the act of historical inquiry, we looked to games such as *Indiana Jones and the Fate of Atlantis* (LucasArts, 1992, PC), an adventure game in which players occupy the role of Indiana Jones investigating fragments of a vanished civilization; *Ingress* (Niantic Labs, 2013, Android), a team-based augmented reality game in which players take on the role of two factions competing over ancient artifacts, glyphs, and nodes of power; *Pandora’s Box* (Microsoft, 1999, PC), a game in which players assemble artifacts through various puzzles; and *Gone Home* (Fullbright, 2013, PC), a game in which players explore an empty house trying to understand the story of a missed year through the artifacts left behind. These models, the mechanics of the adventure game genre (puzzle-driven and informed by a sense of participating in a goal-driven narrative thread), and our knowledge of modern art informed our preliminary game design, which offered students the opportunity to overcome obstacles and gain admittance into a secret art society.

In the Spring 2014 iteration of “Secret Societies of the Avant-garde,” students were assigned randomly to teams of 5-6 students. These teams were given an envelope containing a letter from a masked character named the Initiator (Figs. 1-3). These newly formed pledge groups were encouraged to meet outside of class, to sit together in class, and to communicate via their team’s discussion board in Webcourses. Clues, in the form of unidentified pieces of art or fragments of letters, drawn from a variety of twentieth-century art movements such as Fauvism, Cubism, Surrealism, Dada, Abstract Expressionism, and Pop, were posted to the teams’ discussion boards by the Initiator (Fig. 4). As the pledges identified their clues and assigned them to a movement, more clues were released. The teams

then had to create a written project featuring ten images and explaining how these objects embodied the qualities of their movement. This process of clue identification, assignment to a movement, and written report occurred in five phases, so that by the end of the semester each team had researched five different art movements of the twentieth century. At the end of the semester pledge groups curated virtual exhibitions that connected their five art movements thematically (Fig. 5). The quality of these exhibitions determined whether or not the teams were admitted into the Secret Society of the Avant-garde. A video from the Initiator was shown on the last day of class (Fig. 6). This video congratulated pledges on admittance into the Society, but warned them to remain observant as “art is all around them.” New inductees also were given membership cards and certificates (Fig. 7).

In an effort to respond to students’ evaluations of the initial prototype of the game (see Appendix), during the second iteration in Fall 2015, students chose their own teams and the written projects were replaced with online exhibitions for each of the five phases, plus a final thematic exhibition. In addition, independent assessments were added to the course, including five quizzes, a final exam, and peer reviews so that every student was assessed on their understanding of all the art movements of the twentieth century, not just the ones assigned to their pledge group.

### *Alternate Reality Games for Learning*

The primary genre inspiring the first deployment of “Secret Societies of the Avant-garde” is the alternate reality game, a genre defined by its lack of visible rules and boundaries. As Szulborski explains: “unlike standard games...alternate reality games have no defined or implicit rules for playing them...and generally no pre-known objectives or winning conditions” (Szulborski). This lack of the traditional patterns of gaming means that the introduction of alternate reality game conventions into a classroom does not resemble the practice of gamification, and instead requires the imposition of narrative and play into the classroom space through otherwise expected methods (including emails, the course management system, letters, physical objects, and other means.) Alternate reality games typically include several structures to take advantage of these methods:

- Rabbit hole: Alternate reality games generally open with a rabbit hole, or an invitation into the context of the game and play. The metaphor for the rabbit hole is appropriately drawn from *Alice’s Adventures in Wonderland*, as it typically involves accepting an unstated set of rules and distortions of reality in order to engage in play. For a classroom alternate reality game, a rabbit hole can be employed within the context of the course but lead in unexpected directions.
- Escalating clues and narrative: As Kim, Allen, and Lee describe: alternate reality games “provide shared scenarios through which gamers interact and collaborate to construct an eventual ending to the story...the gamers’ sustained, active, and voluntary participation is the most important condition of the ARG experience” (Kim, Allen, Lee, 38). While an educational environment does not lend itself to voluntary participation, the emphasis on interaction and collaboration to progress forward is essential to the genre.
- Narrative flow and finale: As many traditional game mechanic structures (such as levels or digital environments) are not employed for alternate reality games, the progression of narrative is the main indicator of progress in play, and guides all puzzles and actions. For a classroom or educational alternate reality game, the narrative should be integrated with the content and educational outcomes, and the finale may correspond to the most challenging and rewarding portions of the course.

Other deployments of educational ARGs have struggled with the challenge of using the “unfiction” mindset appropriately. The designer of ViolaQuest, an educational alternate reality game developed for orientation at Manchester Metropolitan University, noted that: “although ViolaQuest uses many virtual and real world gaming spaces over the course of the game, players are never in doubt about whether they were still playing or not, and it is clear that the game is associated with a particular educational institution...it can be argued that the appeal of ARGs is that they are outside the mainstream, and by legitimizing them in a university context educators are in danger of removing their very essence and indeed the fun of participation” (Whitton, 7-8). However, the potential of alternate reality games to encourage active participation and collaboration on the part of students makes the genre continue to appeal to educators (O’Hara, Grian, Williams).

While some alternate reality games address art history directly, they tend to be museum initiatives and thus location-based and limited in access. These events are often limited-run engagements, such as the scavenger hunt faction battle *PHEON* (Smithsonian American Art Museum, 2010-2011, physical), which involved puzzle-solving through clues embedded in the museum and its digital catalog. *PHEON* offered a particular inspiration for this project as it involves elements of the alternate reality game genre, a hybrid physical-virtual approach to gaming that we will discuss further later. However, as it is designed for a particular locale and collection, it cannot easily be translated for a classroom environment. The team behind *PHEON* designed it for use in multiple institutions, but the deployed game was never taken outside the American Art Museum, and the team noted that their use of the Facebook platform for the virtual game limited adoption and play (Koepfer, Goodlander, Callahan, Sneeringer, & Tait, 23). The same museum had previously presented *Ghosts of a Chance* (2008), the first alternate reality game to be featured at a museum. Eric Engdahl implemented an alternate reality game for teaching the elements of art in his class entitled “Wanting to Go Home,” which used animation, emails, and a hand puppet named Shelby the Snail who wanted to get home (Engdahl, 2014). These games suggest the potential of the alternate reality game model for a course of this kind.

### *Situating Game Design in Pedagogy*

Our interest in finding “the game in the content” also necessitated an evaluation of art historical pedagogy. Art history is a traditional discipline that has typically relied on slide-based lectures to convey material. Most art history instructors project digitized images of major works of art while lecturing about the artwork, its style, the artist, and the historical period. In this way approximately fifteen to twenty major works of art can be covered in an hour and fifteen-minute lecture. Generally, there is very little discussion, because of time constraints and the amount of material to be covered. Exams are a mix of slide identification questions, during which an image is projected for a few minutes while students write down the memorized artist, title, and date, and essay questions that ask students to compare and contrast two works of art, or discuss a historical or stylistic period, although for large classes some faculty employ multiple choice tests as well. In all cases a successful student is usually one who comes to class regularly, takes good and detailed notes, and memorizes the art objects. Three tests over the course of the semester and possibly a term paper are the methods of assessment one can usually expect. This model of teaching and learning has proven to be effective for motivated students, particularly art history majors, but it is usually not as successful with studio art majors and others from outside the discipline. Moreover, research conducted over the past thirty years has shown that it is impossible for students to absorb and process all the information presented during a typical hour-long lecture (Freeman, 2014). Moreover, with the availability of information online through museum

webpages, art history wikis, YouTube videos, and the Khan Learning Academy, to name just a few, the idea of the “sage on the stage” is becoming more and more problematic.

Yet lecturing is still the dominant teaching method in large art history classes, even though experts agree that different approaches to teaching can help more students learn more, and help them learn better. Some 80% of professors teach their classes the way they were taught, so in traditional disciplines, like art history, it is hard to get instructors to move away from lectures, but as Armstrong and Bezuk argue, “Teachers often must play the part of the pioneer if changes are to be made. Pioneers forge ahead in spite of difficulty, learning all they can before striking out for new territory... They take old knowledge with them, but expect to develop new strategies, solve novel problems, create new language to describe what they see, and share what they learn with those who have not yet made the journey” (Armstrong & Bezuk, 1995). Instead of lectures, we propose that art historians consider integrating game-based learning and other interactive approaches that have been shown to reach more students and to enhance comprehension and retention. Instead of telling students the relevant “facts” about an art object, we propose that professors experiment with new, innovative teaching and learning strategies such as games that encourage students to discover and evaluate material on their own.

One strategy that influenced our game design is “close looking” or “Visual Thinking Strategies” (VTS). Developed by museum educator Philip Yenawine and sociologist Abigail Housen, VTS offers an alternative model for the teaching of art history. In VTS an image (either in situ or through a projection) is presented to students who are then asked to quietly look at the object for five-to-ten minutes. They are then asked the following three open-ended questions:

1. What’s going on in this picture?
2. What do you see that makes you say that?
3. What more can we find?

To facilitate discussion, the professor paraphrases comments neutrally, points at the area being discussed, and links and frames student comments. Through VTS, students are asked to:

- Look carefully at works of art
- Talk about what they observe
- Back up their ideas with evidence
- Listen to and consider the views of others
- Discuss multiple possible interpretations

As Housen contends, “We have come to believe that discussions of art may be one of the most fertile grounds for teaching critical thinking skills precisely because there is no one right answer” (Housen, 2015). Coping with unanswered questions and multiple interpretations is a valuable skill for the twenty-first century, but one that many college graduates are lacking. As Yenawine has demonstrated, teaching visual literacy promotes good citizenship skills, cooperation, respect, and tolerance for the views of others—all key skills for life in the global economy (Yenawine, 2003).

Following game design initiatives and pedagogical research, we endeavored to create a game that would be interactive, collaborative, student-centered, and project-based, so that students would move beyond rote memorization to gain proficiency in visual literacy. In class sessions, the instructor used VTS to facilitate discussions of key works of art, and in the online game, students worked together to collaboratively apply the visual literacy skills gained through VTS to build their own narratives of twentieth-century art.

## Results

### *Piloting the Game*

In the initial game deployment of “Secret Societies of the Avant-garde,” the class of sixty students met for an hour and fifteen minutes once a week over the course of the sixteen-week semester. These class meetings began with a five-to-ten-minute free write on a projected, unidentified art object. VTS was then used to lead a discussion of the art piece and the movement that the piece exemplified. A brief lecture and discussion followed. In this way fifteen art movements were covered during in-class meetings over the course of the semester. The remainder of the course content was presented online through the game using Webcourses, which correlates with the alternate reality game strategy of using environments and communication methods that players are familiar with and would use in the ordinary course of their education.

In “Secret Societies of the Avant-garde,” the rabbit hole for the game was delivered as part of the first meeting in the form of the letter from the Initiator, with promises of further contact throughout the semester. The letter included some introduction to the game’s structure:

It is going to be a lengthy process of initiation, but you will not be alone on this adventure. Our society values integrity, teamwork, and partnership above all else. Therefore, it is of the utmost importance that you work with your pledge group to overcome the many obstacles that you will face, all of which will validate your knowledge of and expertise in Modern Art.

These letters were distributed without acknowledgement directly from the course instructor, thus separating the normal lecture portion of the class from the alternate reality game’s introduction. Of course, this artifice is difficult to sustain in an educational context where grading and explicit requirement structures are often necessary for assessment, and the game’s outcomes were referenced on the syllabus. However, the rabbit hole still served both as an invitation and an explanation of some of the goals and context for the narrative arc of the semester.

Students worked in their assigned teams (their society initiate pledge group) to identify and interpret art objects in order to be initiated into the “Secret Society.” Working together, they interpreted primary and secondary sources including visual objects and excerpts from letters, and crafted cohesive narratives for their objects. Each team received clues in the form of unidentified paintings, sculptures, buildings, or letters, and they had to post descriptions of the pieces onto their team’s online discussion board in order to try and identify and interpret the objects. After receiving a series of eight to ten clues, the team members worked together to assign them to an art movement or style of the twentieth century. They then collaboratively wrote a paper that analyzed and interpreted their movement and its works of art. Teams also gave a brief presentation in class about their team’s movement. In the second stage the clues were deployed as composite images with multiple art objects overlaid in a montage so that team members had to pull apart the images to decipher them. In the third stage the clues were deployed in a video instead of as single images. In the fourth and fifth stages the clues were deployed as single images, but because these artworks were from later in the twentieth century it was harder for students to situate them into specific movements. For example, whereas early in the game a painting by Matisse would easily be placed within Fauvism, later in the game a photograph by Cindy Sherman might fit within the movements of Feminism, Conceptualism, or Appropriation.

The use of clues is in keeping with the pedagogical strategy of VTS: the altered, decontextualized, or remediated images demanded the students’ full attention in order to unravel the connections, and in

turn their interpretation of the images became central to their work in the class and their society's narrative in the game. While in this first pilot the narrative was relatively uncomplicated, future versions of the game might make greater use of alternate forms of puzzles or content. However, the reliance on image interpretation and collaborative discussion of primarily visual artifacts will always be a central part of the game structure in keeping with the course's primary objectives. Such deduction is also inherently game-like, recalling the genre of the "hidden object" game, in which clues are hidden in images and must be noticed and explored.

#### *Course and Game Outcomes*

The game culminated with each team curating a final online exhibition that thematically or theoretically connected their five movements. This exhibition in turn served as a statement on the identity of their secret society and its purpose in the landscape of twentieth-century art. For instance, team one received clues for the following movements: Ashcan; American Regionalism; Pop; Hard Edge; and Neo-Expressionism. They titled their final exhibition "American Art Rebels" and their curatorial statement began:

The United States of America was born out of rebellion during the American Revolution, and as such the American spirit was born out of rebellion as well. It was only natural then that American art embodies that spirit of rebellion; this was especially true of twentieth-century America. American Artists challenged the conventions of art and created something new.

Team ten, on the other hand, received clues for the following movements: Cubo-Futurism; Mexican Muralism; Gutai; Kineticism; and Body Art. They titled their final exhibition "Action: An Interactive Journey through Modern Art" and began their curatorial statement:

This exhibit, *Action*, explores the journey of artists through the twentieth century who are urging the viewer into activity by directly involving or engaging them into their works. *Action* is broken into categories of physical, mental and emotional interaction, further specifying the techniques the art and artists are using to implode such interaction. From political uproars of Communism and the Mexican Revolution to the break out performances in Japan, into new technological advances in movement to the contemplation of sight and self-reflection, artistic movements in the twentieth century have influenced action and interaction between the artist and the observer. Just as there is no single or correct way to experience or interpret art, each piece in this exhibit fall into more than one category.

The final exhibitions were presented in class with the class voting on the best exhibition. The presentations also resulted in admittance into the Secret Society, with an initiation ceremony held on the last day of class.

The class was divided into ten teams, with each team receiving fifty clues drawn from five movements. In this way 500 works of art and 60 art movements were featured in the game. The game, then, allowed about twice as many movements and images to be covered than would have been possible through straight lecture. Use of the game, then, allowed more material to be studied more deeply than would have been possible through a traditional content delivery method such as lecture, it demanded that students use visual observation, and it fostered the development of interpersonal relationships, thereby increasing student-to-content and student-to-student interaction. While students in any given team would only interact deeply with a subset of the images, they were exposed to the other teams' images through presentations. In future iterations, more direct contact between the secret society initiate

groups throughout the game would be desirable to facilitate greater awareness of the other movements and differences in identity throughout the class.

### *Evaluating the Pilot*

Using our aforementioned online survey methodology, as well as an informal comparative analysis of previous iterations of the course, we assessed the effectiveness of the game on the achievement of the course learning objectives. Student responses to the initial deployment were positive, with the majority of students agreeing with the statement “Participating in the game reinforced my understanding of the course content contained in the lectures, modules, and textbooks.” 55% thought the game format method of learning helped them to have a greater appreciation of twentieth-century art; and 58% said the game helped them to have a better understanding of the complexities of classifying twentieth-century art. One student noted that this was the “most unique and interesting art history class I have ever taken. I actually learned the material because I could focus on what the professor was talking about instead of taking notes for a test that will teach me nothing,” while another student said, “I remembered more information in this class than I did with another conventional art history class I was taking at the same time.” A third student said, “I loved the structure of the course, lectures were stimulating, open-ended, and interactive. While I’m not a fan of the group essays, I will say they helped me learn some of the material in the course better.” Another student noted, “We learned a lot about the different art styles in this class. She made it different than a traditional art history class and made the class more interesting and entertaining.” Such responses suggest that for some students the game modality, even in a low-cost and low-tech prototype, had an impact on learning outcomes.

There were detractors, though, especially among students who preferred conventional art history courses. Comments included: “I would have liked more lectures and testing. I don’t feel like I learned as much as I could have. The class was more fun than it was educational”; “I found I did not retain much information from the group paper assignments, and found myself wishing for a more traditional approach to the material”; and “The game format of this course did not aid in learning about twentieth-century art, rather it distracted. The game created an extremely inconsistent course where students did not have an equal chance to learn about the twentieth century as a whole.” Such critiques suggest some of the challenges of the alternate reality game format, where “fun” is judged as a distraction when the mechanisms and intentions of the game are not fully explained or understood by all students participating.

Although not everyone enjoyed the game, it proved successful at teaching visual literacy and teamwork. Visual literacy was measured through the free-writes and the final projects. The quality of the free-writes and discussion of images increased over the course of the semester, as did the students’ written projects. In addition, the quality of the final projects was high, with interesting and creative connections made between the various art movements of the twentieth century. The game fostered teamwork and interaction because the students had to work together to create their projects. Students recognized the importance of teamwork with 93% of students saying that the ability to work with others is a valuable skill, and 76% responding that the game fostered cooperation. This is consistent with findings from other alternate reality games: a team deploying an alternate reality game for multilingual learning found that students felt they had learned new skills in “cooperation, collaboration, and teamwork” (Connolly, Stansfield, & Hainley). Such outcomes would be unlikely to emerge from a traditional art history course, and offer students an entry-point into some of the collaboration and conversation of the discipline itself.

“Secret Societies of the Avant-garde” was designed to illustrate the dynamism of the twentieth century and to teach visual literacy and teamwork, key skills for the twenty-first century. Art history has the potential to teach students the skills they need to navigate an increasingly visual world. Daily we are bombarded with visual stimuli and information, but images are not transparent, unbiased conveyers of meaning, nor are they purely reflective of the world in which they are created. Instead, they are ideologically weighted mechanisms that both contribute to and frustrate our understanding of the world. Helping students sort through this matrix of visual imagery is a requisite part of the job of art historians, but slide lectures are not the best way to accomplish this. A serious game such as “Secret Societies of the Avant-garde,” has the potential to illustrate the dynamism of modern art, to teach critical thinking and visual literacy, and to foster a desire for life-long learning. As a methodology, it might be even better suited to an introductory course, but it is particularly suited to the nonlinear and fragmented history of the twentieth century.

The results of this initial pilot support the potential of a games-based approach to serve as a valuable pedagogical method in the context of art history. The emphasis on collaboration and the creation of meaning brought out by the game mechanics and the results of the student survey suggest that this approach has transformative potential for education within the discipline. In future iterations, we intend to work on creating the play experience as a more self-sufficient module for easy deployment for faculty interested in drawing this type of art history exploration into their own virtual and physical classrooms. Future prototypes will continue to build on the demonstrated effectiveness of a narrative-driven experience that asks students to participate in the reflective and theorizing practices of art history—a participant-driven model that provides a clear alternative to the lecture approach that is still dominant within the pedagogy of the discipline.

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