

Introduction

Noticing digital billboards, interactive posters, gadgets, and computers is impossible without thinking about aesthetic design choices. This aesthetic thinking motivated by technology has advanced the dimensions of video, gaming, and storytelling. Every minute, these images, what we call material culture, influence and imprint on us (Bolin & Blandy, 2003). Material culture explores artifacts as symbols of meaning; these objects made or modified by humans reflect the beliefs of the individuals who made and/or used them (Totten, 2007). Material culture can change how we conceptualize art history, art education and visual culture studies. The terms material culture and visual culture, sometimes confused, differ in depth and breadth. Visual culture generally includes some combination of art history, critical theory, philosophy, and anthropology by focusing on aspects of culture that rely on visual images (Dikovitskaya, 2005). Additionally, visual culture is interested in the breadth of images relied on by a culture. Material culture goes deeper into concepts, expressions, and forms, engaging in our visual sensibilities, immersing us in experiences as reflected by the artifact, while generating our feelings and emotions through those experiences (Kader, 2000).

Material culture encompasses multi-sensory aspects such as sound, kinesthetic experience, and storytelling, which are also stimulated when playing video games (Ulbricht, 2007). Art educators interested in teaching material culture not only teach by viewing and engaging with the physical object, but also teach with the cultural expressions transcending those objects. Even more, when material culture is aligned with art education, it explores the culture of people's daily experiences and the objects and expressions surrounding them. Video

games might be considered cultural expressions, and additionally, video games help students stimulate storylines and learn from multi-sensory experiences.

Through virtual and technological lenses, material culture examines multi-sensory simulation, situated learning, and social realism gaming schemas (Parks, 2008). Web based electronic communication can become multidisciplinary and interdisciplinary study through forums about video games and how individuals solve problems together to advance to the next level. Through video games, material culture studies integrate with various academic disciplines and draw on a wide range of gaming study that enrich learning in art education. In this article, I describe how to teach elements and principles of art through the virtual worlds of video games, how games are part of material culture, experiences of teaching video games in the classroom and their social interactions. In closing, I list ideas and offer a lesson plan using video games to promote social justice.

Video Games to Teach Art

The most obvious point of departure for this argument is an acknowledgement that game graphics are more realistic than ever. Critiques of these games can help students learn the principles of how to take traditional art and animation and apply them to 3D models that look, move, and articulate realistically. Students can observe and learn how textures, lighting, and visual effects enhance the animation and environment of the game.

These razor sharp graphics create interesting avenues to explore along side of traditional values of art education; however, video games also tell complex stories navigated and engaged by players. Stories become something interpreted by the player who is interacting with multiple environments and narratives. Every level in a video game further immerses the player

and delivers an increasingly complex storyline. The varied personalities of every character in the game incorporates humanist themes into gameplay which makes the storyline more intriguing. This environment and character development contributes to material culture. Just like more traditional visual art forms, video games can be used to talk with students about the power the visual plays in the development of a narrative. By engaging students in conversations surrounding character and scene development, art teachers might contribute to a more in-depth awareness of the deep and meaningful impacts material culture has on the development of our own narratives. Videogames represent one of the most influential forms of contemporary material culture (Sweeny, 2010). Video games potentially act as student focused higher-level learning tools to help integrate knowledge, develop life skills, and reinforce creative problem solving in classrooms.

Contemporary artists have a history of using technology to engage participants in esoteric explorations of what it means to contribute and live in our material culture. Contemporary artists like Wafaa Bilal engage individuals in virtual participatory experiences. In his work, *Domestic Tension* video-taped in 2007, Bilal locked himself in a room in Chicago for six weeks and lets Internet users shoot at him with a paintball gun. People would log on to the gallery's website and, similar to video game play, interactively shoot him from the safety and anonymity of their computer screens.

During the course of the exhibition, Bilal will confine himself to the gallery space. Over the duration, people will have 24-hour virtual access to the space via the Internet. They will have the ability to watch Bilal and interact with him through a live web-cam and chat room. Should they choose to do so, viewers will also have the option to shoot Bilal

with a paintball gun, transforming the virtual experience into a very physical one. (Bilal, 2014, para. 1)

In his virtual, participatory environment, Bilal showed the interconnections and tensions between technology, entertainment, and reality. The artist portrayed war and terror as significant social issues in a cultural and powerful way through the incorporation of technology. Interactive art like his provides opportunities to present students with ideas for how material culture might convey messages about war and societal norms and beliefs, all while illustrating how virtual spaces influence perception. Contemporary artists who use video games give a unique perspective to the social issues surrounding violence and war (Warburton, 2012). Critique and discussion using virtual spaces in the classroom can encourage students to inquire into the motivations of contemporary artists, like Bilal, and speaks to larger issues plaguing humanity.

Whether through traditional video game platforms or the work of contemporary artists, virtual spaces can provide students with a place to engage in discussions of violence as part of our societal norms. Parks (2009) suggests the different types of violence in video games can teach students to address critical issues such as poverty, genocide and global conflicts. Asking students to consider larger questions about morals, values and their impact on human behavior offers opportunities for unique and meaningful conversations in the art room

In addition to addressing formal qualities of art and reflecting on life experiences, video games and interactive online platforms stimulate multisensory experiences. One example is interactive video games that move the player's seat in response to the characters movements on screen. During this sensory experience the movement, sounds and visual effects combine to create a multifaceted experience for the player. This overwhelming amount of stimuli can be

used as a platform to encourage students to ask questions. Why is this made? Who uses this? Why this design? Asking these questions can encourage students to engage in a higher level of problem solving. When students answer from different perspectives, it can open broader dialogues about the cultural phenomenon of multisensory experiences in the exploration of societal issues. These multisensory experiences can help students explore meaning making and construct multiple realities; both are influenced by social and cultural factors, situated in a particular time and space, and are constantly changing. This ever evolving and changing environment is important to scaffold learning about the people who make, use, and respond to the material culture surrounding us (Tavin, 2005).

Art education intertwines with the lives of students in meaningful ways through video games because it encourages students to inhabit roles, think about situations that promote social change (Frasca, 2004), and encourage collaboration. For developing life skills, video games have allowed students to experience the consequences of their decisions as the storyline unfolds, thereby increasing strategy building and critical thinking skills (Olson, 2010). Collaboration helps students construct knowledge between each other because it allows students to depend on each other and produce socially relevant and mutually beneficial solutions to the problems (London, 2015). Collaboration for social change can generate more solutions than individual members can render alone. Teamwork also allows students to be more efficient in coming up with solutions because they have social support amongst each other. Collaboration can present solutions and approaches that an individual may not have thought of, and bring encouragement and motivation for higher learning outcomes (London, 2015).

Additionally, the collaboration of multiplayer games allows students to build teamwork and social skills through making decisions, understanding rules, and collaborating during the

different scenarios. Students can share advice on solving situations within a game through verbal interactions and debates. Open-ended games with multiple solutions and play options are especially conducive to self-expression because they allow players to create new content, otherwise known as “modding” (Squire, 2008). *Modding* can range from simple customization of game characters’ appearance to the creation of new game levels. More challenging types of modding require a deep understanding of game rules and structures that can lead to new ways of learning about broader issues (Squire, 2008). The video game allows a story to be more complex because each new chapter integrates a set of challenges relevant to a larger problem (Olson, 2010). From an art educator’s perspective, increased immersion in a game and discovering events through character experiences may increase student learning of art by observing the environment of the game, the details, the composition, and the element and principles that go with game design. These connections support the importance of teaching art as it opens new knowledge.

In addition to contributing to an expanding view of art education’s relevance in our increasingly virtual world, explorations of gaming and contemporary artists using technology creates a venue to explore potential fields related to art. For example, game artists have a background of cartooning, design skills, illustration, color theory and composition as part of their art education background. They use these skills they have learned in art school during the process of creating character design and settings. Video games and its multisensory experiences (sound, movement, visual imagery and special effects) open up possibilities for new forms of representation. When we teach art to students the painting or drawing is a fixed visual, we neglect the changing virtual worlds that are such a part of contemporary culture; however, the perception of movement through video art focuses on the environment that registers change and

transformation. The constant motion of images brings more sensitivity in everyday visual perception and the changes of time and place. As a result, students become more observant of their surroundings and the details around them (Olson, 2010).

Social learning through video games

Observational learning plays an important role in the socialization process when individuals learn how to behave and respond to others. Students observe how others in the classroom interact with each other through video games by engaging in conversation with those who do play the games with them (Bandura, 1989). Bandura (1977) believed that many of us learn through copying or modeling others. Modeling is said to have two components, observation and imitation, and art educators who think about the concept of learning through video games, often talk about direct instruction methods. Direct instruction for social change emphasizes pace and efficiency of instruction and is based on instructional methods using specific curriculum design (Kim & Axelrod, 2005) where students are grouped and re-grouped based on their rate of progress and ability to problem-solve challenges together.

However, when teaching art through video games, greater motivation to learn relies on watching people and modeling actions (how well they play the game, what decisions they make to get to the next level, and how well they interact with others for feedback on what to do next). Video games are popular among youth because of their creative graphics, characters and fantasy worlds, some games require two players, and the virtual interaction where students can play with students at different locations. They can talk with each other through typing in virtual chats or even talking over microphones. Additionally, students can create characters online that can play against other students self generated characters.

Video games can motivate students to become critical thinkers by helping them problem-solve, evaluate challenges, study connections between art and technology, and build social skills (Olson, 2010). The social skills built through video games contribute to self-efficacy (Bandura, 1997), allowing students to become successful in social interactions by helping their peers in positive ways. When a student learns self-efficacy on one task (such as completing one level of a video game), the student builds confidence towards other tasks or domains such as more challenging levels of the game. Students playing video games can create, evaluate, analyze, apply, understand and remember knowledge that will help benefit them in their other subjects (Anderson & Krathwohl, 2001).

Using Video Games in the Classroom

In art classrooms, especially secondary levels, virtual platforms can be used to explore the social movements defined by people, organizations and institutions that network, facilitate and support the creation and distribution of what is put online (Blandy, 2012). During the process of learning these domains, students can collaborate with each other to create a video game idea, and participate in discussion of what makes video games art and what it means to them. Here are a few suggestions for starting or creating an engaging learning environment with students using video games before teaching a lesson:

1. Collaborate with other educators and students to brainstorm ideas of how art relates to their core subjects and inter-disciplinary connections and what kind of story ideas for a video game can promote social justice.
2. Create a Twitter or Facebook page for the art class to keep students engaged and to get a sense of what students are thinking during their learning process. This is

also a great way to get feedback and have students participate in self-reflection.

3. Have students write about video games that helped them learn something related to life skills. For example, when playing Pac Man, students may understand there is a timed-pressure to complete a task. Pac Man must eat all the dots to get to the next level in a short period of time. This can impact real life time management situations, like when students have to complete homework assignments and classwork in a short period of time.
4. Show clips of age-appropriate video games (school approved) so that students can critique what is going on in the game, who the characters are, how to solve the problem and describe the aesthetics of the game. Also it would be fun if a few students would participate in playing a video game in front of the class for a few minutes just to see how they feel about interacting with it. This can lead to a lesson where students create their own model video game from their imagination with problems, environments, scenarios, and characters.

After students are comfortable with the virtual mediums, teachers next can go even deeper. Following this section is an example of a lesson plan for secondary levels that promotes social justice for environmental conservation. The lesson can be adjusted to reflect a social justice issue the art teacher or the students decide and can easily be adapted for elementary school with the inclusion of age-appropriate games. The lesson plan that follows engages students in learning about art in a more interactive format and promotes social and critical thinking skills within a group. Art educators can approach these virtual spaces while teaching students to reflect on digital images' formal qualities, and see their engagement in these spaces as part of material culture. As art educators, we have a duty to learn and use different technology

in material culture to improve and enhance student learning so our students can experience and inquire into virtual spaces with innovation.

Survival of the Greenest

by Cindy Hasio

Grade level: Middle school (6-8) that can be adjusted to high school (9-12)

Objectives:

1. Students will learn how to design activities that assess their ability to problem solve within a video game.
2. Students will learn art vocabulary and how those relate to describing the environments of the video game.
3. Students will learn science vocabulary and how those relate to describing the environments of the video game.
4. Students will learn creative problem solving when interacting with other players to find solutions.

Art Vocabulary: Line, Shape, Composition, Texture, Emphasis, Movement, Unity, Color

Science Vocabulary: Recycling, Energy, Motion, Environment, Conservation, Species

Materials: Pencils, Colored pencils, Paper 12 X 18", markers, acrylic or tempera paint, brushes, cups, scissors, construction paper.

Direct Instruction:

1. For motivation show clips of video games that are age appropriate for the grade level and subject. Age appropriate examples can be: "The Garbage Dreams Game"(2015), "Bioharmonious"(2015), and "SimCityEDU: Pollution Challenge!" (2015). These are free video games students can play at a website called, <http://www.gamesforchange.org> (Games for Change, 2015, Games). Afterwards, have the students get into small

groups to play video games so they can interact with each other.

2. After the students get into groups and each one takes a turn to play, have them brainstorm ideas and draw thumbnail sketches within their group that show concepts associated with the cause and effects of trash with or without recycling.
3. Have students think of five different characters that could be played in the game. Have them brainstorm and sketch ideas of people trying to save the planet or villain characters that want to pollute and trash the Earth to destroy it. Allow students to brainstorm scenarios where these characters come into conflict or battle. These characters can be humans, animals, or any creature from their imagination. The students should be writing a description of each character: size, form, texture, color, shape, etc.
4. Have students think of five creative tools or weapons they would give their characters to battle with. For example, a magic recycling bag to catch all the trash that are thrown at them by the villains that turns the trash into flowers, or a ray gun that shoots a laser light to turn trash to recyclables. The students should be writing a description of each tool or weapon: size, form, texture, color, shape, etc.
5. Have the students implement science and art vocabulary that could be clues to solving puzzles they may ask in the game. The puzzles should include written questions or clues to help the player(s) think of what to do next. These are clues to help the player(s) navigate throughout the game and help them make decisions on where to go in the game.
6. Have the students work as a team to describe and write down five levels of the game from beginning to advanced level. Have the group work on a different background

(either paint or draw) for each level. Encourage the students to draw either a background that shows the destruction of pollution or the outcome of recycling. The students should be writing a description of each character: size, form, texture, color, etc. Let them compare and contrast different environments to describe during their critique.

7. Have the students brainstorm challenges that may arise throughout the game levels. Also have them write down and describe what would happen if the player(s) does not complete the level, or if the player(s) advance to the next level. Have them write about why they think it is important to get feedback and interaction with another player to help them advance to the next level of their game.
8. Finally, the group should later present and describe their game and how it promotes conservation for social justice. The backgrounds, characters, tools and weapons, challenges of the games and description of the level of their game should be described in class. Before presenting for class critique, digital pictures should be taken for each of the characters, tools and weapons, and backgrounds so the pictures can be projected onto the screen from the computer. If no projector or computer is available, then allow the students to present all the pictures and art they created for this project.

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