DESIGN(*er*) META Game

Cary Staples
University of Tennessee
School of Art
1715 Volunteer Blvd .. Knoxville, TN .. 37996
865.974.3210
staples@utk.edu

Neil Ward, Vittorio Marone
University of Tennessee
School of Art
1715 Volunteer Blvd .. Knoxville, TN .. 37996
865.974.3210
nward4@utk.edu, vittorio.marone@utsa.edu

ABSTRACT
Using a gaming mindset the authors have developed a serious game using questioning to address the multiple aspects of concept generation, visual composition and technical use of materials. The use of this game has fostered research and discussion in a course exploring the process of design. This paper will document the game's development process and student feedback. Previously, assignments used "compare + contrast" essays to access mastery. While documents were well crafted, we found when students moved to generating their own ideas and solving their own problems, no bridging of the exploration was evident in the conceptual discussion with the students or the visual generation of artifacts. The students were good at the process of analysis, however no real transference was occurring. Using inspiration generated in the "MetaGame as Teaching Game" (Sharp,J., Macklin,C., Daer, A., Duncan, S., Nealen, A., 2012) workshop, the authors have developed and tested a game to encourage individual discovery and improve transference.

Keywords
Serious games, game based learning, blended learning, design education

INTRODUCTION
"How many points of view do we need?" "Are different sizes considered different points of view?" "Why do I have to use materials other than the computer?" "Can I just find images I like on the computer?" "Why do I have to make them, I can find them on line?" "You have 16 squares on a page, what do we do with the other squares when we get to 50?" "Are colored pencils considered a different material from colored pens?" "When we get to 50 we will have the right answer, right?

Proceedings of DiGRA 2013: DeFragging Game Studies.

It is 9:00 in the morning; I have just finished a 40-minute lecture/slide show illustrating how designers combine materials to create new meaning. Does a welcome mat made out of barbed wire really say "welcome"? I have just assigned a project titled "50 ways of seeing." It is intended to be a visual exploration of an object to allow the students to discover different and unique meanings based on presentation. This is the fun part of design. This is why I have enjoyed my profession for so many years. This is the academic "game."

And the students do not want to play.

Play.

They are badgering me with questions because they want to know the right answer. They want to know what I WANT. I WANT them to have fun. I WANT them to make mistakes. I WANT them to find their own path to exploration. I WANT them to feel their ideas have value. But they do not want to PLAY.

Then it hits me. At 9:00 in the front of that lecture hall where we are all unhappy, *this should be fun.* But it is not fun for them because they do not know the rules. (Rand, How do I make this a game?

Desperate to find a common context from which to expand, I ask "How many of you play video games?". All of the hands go up. O.K. This is good. Common ground. Can I help them to see my point of view? My frustration? "What do you do when you are learning a game and someone stands behind you and tells you what to do?" In unison, "we tell them to SHUT UP." Exactly. SHUT UP and PLAY

I need to design a game.

The problem we were trying to solve

How can we design a learning experience that will foster curiosity? How can we encourage students to bring their gamers' curiosity into the course material? In the past, readings were accompanied with "compare + contrast" essays to access mastery of the assigned material. While the documents generated were well crafted, when the students moved to generating their own ideas and solving their own problems, no bridging of the exploration was evident in 1) the conceptual discussion with the students, or 2) the visual generation of artifacts. The students were good at the process of analysis, however no real transference or integration of the readings was occurring.

The process of designing the game experienced several false starts. First "clicker technology" was explored as we thought this would provide a gaming feel to the class. The problem arose when the instructors discovered that the material did not lend itself to asking finite or closed questions with a "correct" or "right" answer. The process needed to encourage open-ended exploration and reflection.

The subject matter was also shifted from an interpretive exploration of suggesting meaning for various visualizations, to the historical analysis section of the class. While attending the Games + Learning + Society, GLS 8.0 in Madison WI. the authors attended a workshop titled, "MetaGame as Teaching Game" (Sharp,J., Macklin,C., Daer, A., Duncan, S., Nealen, A., 2012). The initial play testing of the game mechanics was explored at the workshop. Students would generate questions addressing various aspects

of concept generation, visual composition and technical use of materials through the lens of historical decades. Students would explore work generated in each decade and select examples to represent their views and finally compete in discussions to see who could mount the most compelling argument based on the questions generated by the readings. The iterative process of development of the game will model the iterative design process that students are researching. (Salen, K., Zimmerman, E. 2004)

GIVE THEM THE TEST, AND LET THEM WRITE THE ANSWERS

Using "decade readings" that were published in Print Magazine November/December 1989. XLIII:VI. Students are asked to read and analyze the material with the understanding that they should specifically consider the questions that address the facets of concept, composition and materials or use of technology.

Learning outcome	*Concept*	*Composition*	*Materials/technology*
Reflection	*what was the idea behind the piece? what was the problem that the designer was attempting to solve?*	*what are the elements of composition that the designer is using to communicate his/her message?*	*what are the materials/typefaces being used to visually convey the message?*
Q cards	"Which designer was not afraid to fail?" "Which is the best use of a cliché?" "Which is the most negative?" "Which designer is more inspiring to you?" "Which makes the best use of humor?"	"Which makes the most effective use of symmetry?" "Which makes the most successful use of negative space?" "Which is the best use of color?" "Which makes the best use of repetition? geometry? the grid system?"	"Which makes the most affective use of color?" "Which has the most innovative typography?" "Which uses materials to convey emotion?"

Table 1: Examples of directed questions generated before the assigned readings and expanded upon through game play.

Students would then document their analysis of these readings in their process books. In addition to verbal analysis, students' identify visuals, from each of the readings, as well as contemporary outside sources, that support their observations. Students generate a minimum of five cards per reading. They are instructed to select examples that might be appropriate to address multiple questions (table 1). Making the cards is an important step in that it requires students to reflect further on their choices. Using questions on the Q. cards as a guide, students identify visuals from each of the readings to use in the game. Students may use contemporary as well as historical examples to support their

observations. This process encourages divergent thinking about the material, as opposed to reinforcing a "one question – one right answer" mindset.

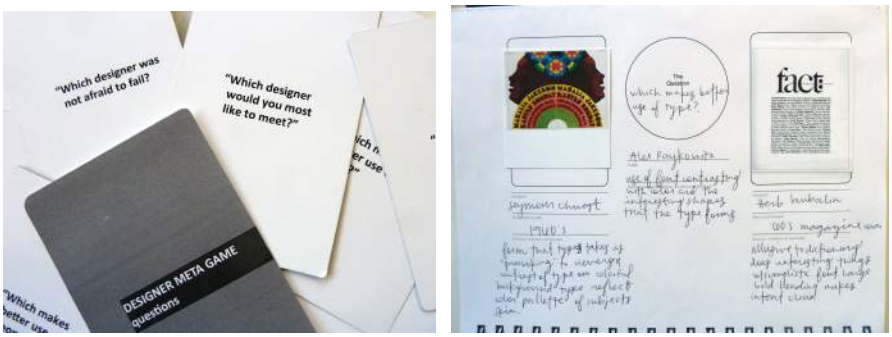

Figure 1: Qcards and Game Mat.
Initial questions are presented to students before the readings are assigned. Game Mats are presented during the first round of play.

Students bring their cards to class and participate in several bouts. Teams of three students participate in a series of three bouts, rotating roles. This allows each student to experience the stress of being the judge. As students do not know which questions they will receive before the game, students might have to "expand" their analysis of their cards in order to participate.

Figure 2: Preliminary and Final Bouts.
After the preliminary bouts, new questions are added to the deck. Final bouts are preformed in front of the entire class. Students not directly involved in the bout choose the questions and officiate as judges.

After each bout, students are asked to document cards they wish they had made or questions they wish had been posed from the perspective of having played the game. After the first round the question arises as to whether, when they judge, they are voting for the best card or the best argument. At this point in time, this is determined by the individual student and recorded on the game mat. In the future, this might be a way to apply a new perspective to the game.

Experience the material on a deeper level

To get past the, “lets get this done so we can get out of here” attitude, all participants must document the bouts in their process books to receive credit. Arguments, along with the rational for the judges’ decision must also be recorded on game mats. Students are encouraged to expand upon thoughts they find interesting or notate if they do not agree with a specific decision made by the judge. Students are also encouraged to document bouts that they found interesting, even if they were not a direct participant or a judge. The quality and quantity of these observations are reflected in the final grade. The grade currently appears to be the best motivator.

From the course syllabus:

In this class we will explore the process and the product that we call “design.” We will investigate the history of the field in an effort to predict where it might lead us in the future. We will analyze its practitioners in an effort to understand design as a practice. We will explore technology in an attempt to discover the relationship of design to society.

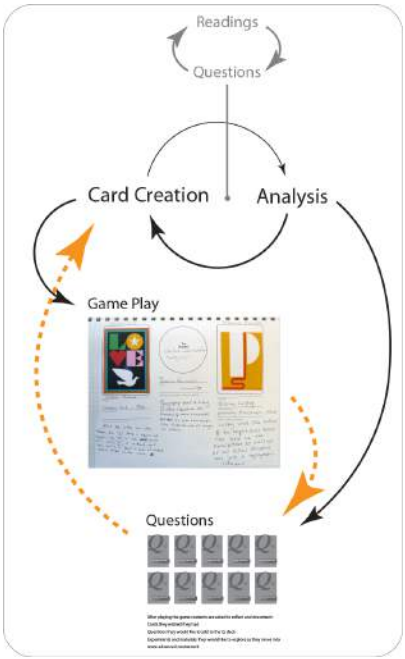

Figure 3: The iterative process of the game. Students receive questions before they are assigned the readings. After analyzing the readings they generate 5 cards to illustrate the most memorable aspects of the decade. Using their cards, they battle in class using the preassigned questions. Battles are recorded in a process book for later reflection and evaluation. Based on play analysis, students may generate new cards or submit new questions to the game deck.

EVALUATION

Evaluation and suggestions for refinement of the game and the gaming process has been a component of course assessment. Of 57 students who started the class, 42 completed evaluations, 40 of which were similar to the following:

"It has trained me to think my problems through more like a designer. This isn't homework, it's training + molding, shaping really."

"I gained a lot of knowledge about many designers. It helped me look for influences among designers. It helped all of us to be able to discuss designs formally, which is important for all future art classes."

"It is really a creative game. The game not only helped to have fun and interact with classmates, the game actually motivates you to learn about the past decades. It is a great resource to get your inspiration from. The game also helped to build your communication skills. It is challenging both as visually and conceptually. It is quick which helps to make the argument better and holds interest because you don't know what kind of question they are going to ask. It is a fun & very intellectual game. I had fun!!"

"The designer research has exposed me to so many new designers and projects that I wouldn't have learned about otherwise. The game has also taught me to really critically examine every design that I encounter. I ask a lot more questions now about concept, layout, and from that I did not ask before. I feel like going forward the game will teach me to better defend and talk about my own work and design in the future."

"The process of this game has really made me look into all the aspects of a design & know that every choice of layout color, text, etc. in a design has a specific impact on the meaning & message of that design. I have become more critical of designs now & feel that I have a better grasp on what makes those designs successful."

"The META Card game was both very fun and challenging. It was fun collecting cards with great variety in order to have a good design for the tough questions. It was very much more competitive that I originally planned, and I enjoyed every battle. While playing the game, I learned new ways of viewing designs based on the array of question cards as well."

"This game is a really good way to learn how to analyze a piece of work and to develop an eye for certain aspects of a work. It also makes the player really look at the designer and his/her work. It really made me realize how many ways there are to look at a piece, but also how influential designers can be to the world as well as each other."

When asked to evaluate the cards, students felt the process of choosing and designing their own cards was an important part of the discovery or research phase. As an original artifact that the student has generated, the cards were very precious. The original META game rules require that the winner of a bout get to keep both cards. It was apparent when we played the first hand that students would not participate if they had to surrender their own work. The numerical collection of cards to determine winning or mastery evolved into an in-class tournament system. The first problem with using numbers to equate to proficiency was that when students were interviewed, they were not addressing all of the facets of the design process equally. They tended to focus on the facets of the design process (Figure 4) that interested them before they started the class and were not using the opportunity to explore other perspectives. To encourage the students to explore the

information more deeply and to truly reflect on the questions and their answers the “game mat” requirement evolved (Figure 1).

Student reflection will continue to be factored into game evolution. When students come back as “Guest Judges” they comment on how the game has changed. By allowing the required course content to become part of a student designed delivery system, students appear to take responsibility for the material as a matter of professionalism.

BIBLIOGRAPHY

Abbott Miller, J. “The 1980s: Postmodern, Postmerger, PostScript.” Print November/December 1989: 162-185.

Gee, J. P. 2003. What video games have to teach us about learning and literacy? Palgrave Macmillan, NY.

Heller, Steven. “The 1960s: Mainstream and Counterculture.” Print November/December 1989: 112-137.

Lenker, John. 2002. Train of Thoughts: Designing Effective Web Experience. New Riders Publishing

Lupton, Ellen. “The 1970s: Age of the Sign.” Print November/December 1989: 138-161.

Meggs, Phillip. “The 1940s: Rise of the Modernists.” Print November/December 1989: 68-89.

“MetaGame as Teaching Game” (Sharp,J., Macklin,C., Daer, A., Duncan, S., Nealen, A., 2012) workshop GLS 8.0, Madison, WI, 2012.

Rand, Paul. "Design and the Play Instinct." California State University, Sacramento, n.d. Available at http://www.csus.edu/indiv/e/estiokom/paulrandsbook.pdf (accessed July 2013)

Salen, K. & E, Zimmerman. 2004. Rules of Play: Game Design Fundamentals. MIT Press

Shaffer, D.W. & J.P. Gee. 2005. Before every child is left behind: How epistemic games can solve the coming crisis in education, Wisconsin Center for Education Research, Madison WI

Shaffer, D.W., 2006. How Computer Games Help Children Learn, Palgrave Macmillan

Shaffer, DW, Hatfield, D, Svarovsky, GN, Nash, P, Nulty, A, Bagley, E, Franke, K, Rupp, AA, Mislevy, R (2009). Epistemic Network Analysis: A prototype for 21st Century assessment of learning. The International Journal of Learning and Media. 1(2), 33-53

Wild, Lorraine. “The 1950s: Design in Grey Flannel.” Print November/December 1989: 90-111.