There Is A Reason They Are Called Games: The Affordances And Constraints Of iCivics Games For Democratic Education

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Abstract: Videogames, along with social media and online learning environments (e.g., MOOCs), are the most recent technological advancements viewed as an educational panacea and a force for democracy. However, as with previous technologies (e.g., educational radio, film), these mediums have particular affordances and constraints as educational environments and tools for democratic education. This paper presents results from a study of the content, design, and potential for four iCivics games (e.g., Do I Have a Right) to meet the goals of democratic education. Specifically, we focus on the design of the games as an educational context, the accuracy of the content, and if they present best case, fair hearing, of competing points of view on issues deemed controversial in contemporary society. We hope this study helps to continue the conversation between democratic educators, game designers, and educational researchers.

Introduction

> [Statue of Liberty] You know what we do with boat thieves in these parts…?
> That's right: WE DON'T LET THEM INTO THE COUNTRY!
> Get rid of this jerk! Oh, and call the police. (*Immigration Nation*, iCivics.org)

I received this feedback from the Statue of Liberty as feedback agent while playing the iCivics game *Immigration Nation* after letting a "boat thief" into the country. From a design perspective, this feedback is supposed to help me learn the rules of US citizenship and immigration policy through an iterative feedback and action loop emphasizing the correct answers. Visually, this means I click on a ship to learn about the passenger and then need to decide if he or she should be allowed to enter the harbor based on claims to citizenship.

Later in the same game, I choose to allow a character named Sivaji to come into the country with permission to work – as he claimed "I'm a fantastic software programmer from India. I've been hired to program for an American company that specializes in health care software." This time the Statue of Liberty tells me that I have done well – "Great! I'm sure Sivaji will do a lot of good work. After a few years in the country, he may be eligible to become a citizen!"

This game is obviously designed using content from a middle school civics curriculum with the objective of helping young people learn about current immigration policies at the rule or conceptual level. The fictional cases used as concept examples are designed to hopefully encourage players to continue to play, win, and thus master the content. However, as game designers build these cases (the content) and the rules of the game, they also shape the nature of the possible narrative arcs that a player will construct through playing, and thus the "ideological world" (Squire, 2006) of the game. The construction of these designed experiences also shapes how young players will view their role as citizens and their views on the world. It is important, then, to also consider how these games will help students connect the individual actions in the game to larger ethical, political, and controversial issues in society (Raphael, Bachen, Lynn, Baldwin-Philippi, and McKee, 2009).

In this study we examine how four iCivics games are designed to engage young people as learners and as citizens-in-training. In this first stage of the study, we are attempting to answer the following question: *What are the affordances and constraints of iCivics for democratic education?*

iCivics

The brainchild of former US Supreme Court Justice Sandra Day O'Connor, iCivics (formerly known as "Our Court" – www.icivics.org) is her answer to the perceived lack of civic knowledge and youth participation in the US. Based at Georgetown Law School and in partnership with Filament Games and faculty from Arizona State University, iCivics has developed over fifteen games for use in and out of school and accompanying curriculum for teachers to use in their classes. These games are designed from the ground up for use in education, utilize child-friendly graphics and catchy music, feature easy gameplay with heavily scaffolding, and have a gameplay and narrative structure that can make the games playable within a school schedule. The games focus on topics such as constitutional rights, the roles of the different branches of the government, and specific issues such as immigration policy and fiscal policy.

Games and Gaming to Learn

Enthusiasm for the use of video games in education is far from new. From the ubiquitous Turtle mathematics games to the oft-criticized Oregon Trail, beliefs in educational gaming are decades old. Over the past decade, there has been a more concerted effort to begin to look at the learning potential for games and gaming beyond just motivation. These include investigations into how literacies may be developed through gaming (Gee, 2003), how gaming and simulations that model professional or disciplinary models can be used to teach in areas such as the STEM disciplines (science, technology, engineering & mathematics) (e.g., Shaffer, 2004; Shaffer & Gee, 2006; Poole, Berson, & Levine, 2008), and work that examines the use of commercial games in learning about subjects such as history and geography (e.g., Squire, 2005). Raphael, et al., (2009) present a framework for research and design of games for civic education, and raise several central issues, including the importance of aligning games with civic content as well as citizenship-related skills and a focus on action that can be applied outside of the game. Most of these studies, however, have not been conducted in regular classroom contexts or within some of the constraints of a tightly standardized curriculum that is often burdened by high stakes testing

Research into the iCivics games is limited. In a recently released study by CIRCLE (The Center for Information and Research on Civic Learning and Engagement), Kawashima-Ginsberg (2012) found that the iCivics game *Drafting Board*, designed to help young people develop skills in constructing argumentative essays related to issues such as the electoral college and doing community service, had a significant positive effect on participants in an experimental study. Early results from additional studies conducted by a research group at Baylor University (Blevins, LeCompte, Wells, Moore, and Rodgers, 2012) found positive effects in middle school participants in both knowledge of basic civics facts and concepts and in areas such as motivation as a result of playing selected games. Both of these studies focus on explicit outcomes of iCivics: skill development in evidence and argumentative essays, acquisition of factual knowledge, and dispositions such as motivations to learn. These studies do not look at the role of the games in presenting particular perspectives and narratives on what it means to be a citizen or the development in other types of citizenship related skills. In addition, despite these positive results from a project like iCivics, there is reason to be skeptical. There have been many technologies that preceded games that have been viewed as the great panacea for education (Cuban, 1986) and the solution for problems like the digital divide and educational inequity (Cuban, 2001; Margolis, 2008). Of course, this lack of adoption of technologies, or lack of effective adoption, is in part due to the structures of schooling and training of teachers.

In addition to questioning the educational value of technology, there are also questions raised about the political and ideological messages that may be constructed within games (deLeon, 2008) or the narratives players may construct in the ideological worlds of the games (Squire, 2006). Raphael, et al., (2009) note the importance of having students reflect on how the design and production of the game reflects particular views. The research on iCivics described above, and the iCivics project overall, provides much optimism for these games to engage young people in civic education. In this study we analyze the affordances and constraints of four iCivics games for the potential for democratic education. In particular, we focus on the design for engaging students, the accuracy of the content in the games, the nature of thinking and intellectual work required in gameplay, and the ideological messages in the narrative arcs constructed through the games. We use a framework from democratic education as our lens for analysis (described below).

Analysis of iCivics

Our research team is comprised of three primary researchers, one who studies the relationship between media and democratic education, a political scientist with a background in the Supreme Court and constitution, and a law scholar with a background in human rights and immigration. We also have eight research assistants who are either law students or upper class undergraduate government majors who have expertise in the content areas of the games. We selected four games that reflect prominent contemporary issues in American politics and society: *Do I Have a Right?*, *Executive Command*, *Immigration Nation*, and *People's Pie*. These games all have specific outcomes in terms of content that appears in most state standards for government, economics, or civics. Two of these games involved policies that are currently either hotly contested or include divergent interpretations of policy or the constitution (e.g., Do I Have a Right?, Immigration Nation) or include policies of the executive branch that are often ideological in nature (e.g., Executive Command, People's Pie). One of the questions we asked in the analysis is whether or not these games, and especially the ones that should realistically include different political viewpoints, include a "best case, fair hearing, of competing points of view" (Kelly, 1986).

Democratic Citizenship Framework

The primary focus of our study is to understand how these games may be a medium for democratic education. There is some disagreement about what democratic education, or its alter egos of civic education or citizenship

education, should include or what matters most in terms of outcomes. For this study we focused on ideas drawn from the Civic Mission of Schools (Gould, 2011) report and the work of scholars from deliberative democracy and more action or justice-oriented democratic citizenship (e.g, Hess, 2009; Parker, 2003; Westheimer & Kahne, 2004). These include goals in civic education related to knowledge of civic content, the ability to discuss controversial issues, and the power of simulating civic related roles, from local activist to a legislator or president.

In order to answer our first research question, we were concerned with how the games were designed to engage young citizens, regardless of differing ability, culture, or class, for example. We were also interested in terms of how the games were scaffolded (Brush and Saye, 2002) and how students were positioned or placed in roles related to civic engagement. Second, we were interested in the content of the game and what types of thinking the game would require. That is, in addition to making sure the content in the games was as accurate as possible, we were also interested in the types of intellectual work the game required. Does the player engage in authentic intellectual work (Newmann, King, and Carmichael, 2007) and require higher order types of intellectual thinking , or does it prepare students to be able to take thoughtful civic action outside of school?

Further, we know that certain types of thinking are particularly important for democratic citizenship: being able to inquire about problems or questions for which there are multiple competing answers, being able to take a position and use evidence to warrant that position, and being able to discuss and deliberate controversial issues (Parker, 2003; Hess, 2009). Therefore, we examined whether or not the games included open or closed issues or questions (Hess, 2009), and whether or not issues related to policy that have multiple and competing legitimate positions in society were present (Kelly, 1986). The analysis of the nature of issues presented, as being open or closed, and the inclusion of competing perspectives, helps to provide us with a sense of the "ideological worlds" constructed through the designed experience of the iCivics games (Squire, 2006).

Methods

The four iCivics games selected for analysis all have themes and objectives related to important contemporary topics or issues: Do I Have a Right? (constitutional rights, including free speech and the right to bear arms) Executive Command (executive power / policy decision making), Immigration Nation (immigration policy, routes to citizenship), and People's Pie (fiscal policy, debt, entitlements).

Two of the student research assistants played each of the four games multiple times to discover the likely possible situations, consequences, and feedback responses on computers equipped with *Screenflow,* a program that allows for recording the gameplay and conversations between the two research assistants. They were instructed to also follow a "think out loud" protocol, explaining what they were doing and why they were making particular decisions. These initial comments provide a sense of the emotional or affective reaction to the game as well as an initial round of analysis in terms of reaction to the games, the nature of the intellectual work and what they are experiencing, as well as a way to understand the nature of the gameplay. The research assistants then transcribed the screen text feedback into a sort of script from their hour of play to use for coding.

Below we present some initial themes that have emerged from our analysis, using the emergent coding scheme dimensions of: 1) game design and scaffolding (e.g., Saye and Brush, 2002); 2) the factual accuracy and nature of the content in the game; 3) the nature of the intellectual work required and whether issues/problems are presented as open/closed; 4) the perspectives included and whether or not the player is pushed toward a "correct" answer for open issues as a result of the feedback scaffolding and the nature of the game design (the analysis of the ideological world of the game). Additional analysis will also look at the curriculum intended to be used with the games and other materials on the iCivics site.

Initial Results

Below we present a few initial themes that have emerged from the study. These focus on the affordances, such as the explicit design of the games for use in schools and ties to standards and civics concepts, to the constraints, which include a lack of emphasis on a more dynamic "non textbook" civic content and no clear applications to civic action for players.

Affordances and Constraints of iCivics Games

Compared to the educational games of old, or even many of the simplistic Flash games available online today, these games are designed to engage young people and to help them quickly acclimate to the game environment. The iCivics games are notable for the small bobble head like characters, catchy and upbeat musical soundtrack,

and designs that emphasize active participation with heavily scaffolded gaming models. The games are designed to be used within the limits of classroom structures, the fifty-minute period, or outside of the classroom with little additional support needed to learn the basic game play. When entering a game for the first time, pop up windows explain the components of the game and basic actions to get the player started. This kind of explicit "hard" scaffolding allows for the player to quickly get into the game and learn the gameplay without the kinds of leveling that often take place in a commercial game.

The first level or task in these games generally emphasizes learning the basic game play and introduces the main conceptual goal for the content or skill objective at the heart of the game. All of these games are designed to get the player to learn the critical attributes of the designed concepts and apply them. For example, Do I Have a Right? focuses on the acquisition of conceptual understanding of the constitutional rights of individuals, such as the rights of free speech or equal opportunity, including the "freedom of expression" in the First Amendment (see Figure 1 below). The player is introduced to the attributes or definition of the concept through the partners that s/he selects for the firm, Chuck Freepress in the example below. The player is then asked to apply this knowledge by determining whether or not potential clients have a right, and if there is a partner who is skilled in that particular conceptual area. Subsequent tasks or levels expand on that content by adding complexity such as additional partners and clients, and emphasize practice of the tasks with a feedback loop that corrects incorrect choices or decisions the player makes. This feedback, or scaffolding, pushes players toward the correct answers that will help him or her to pass the level or successfully complete the task and therefore "win." It also makes the games more accessible to all levels of students.

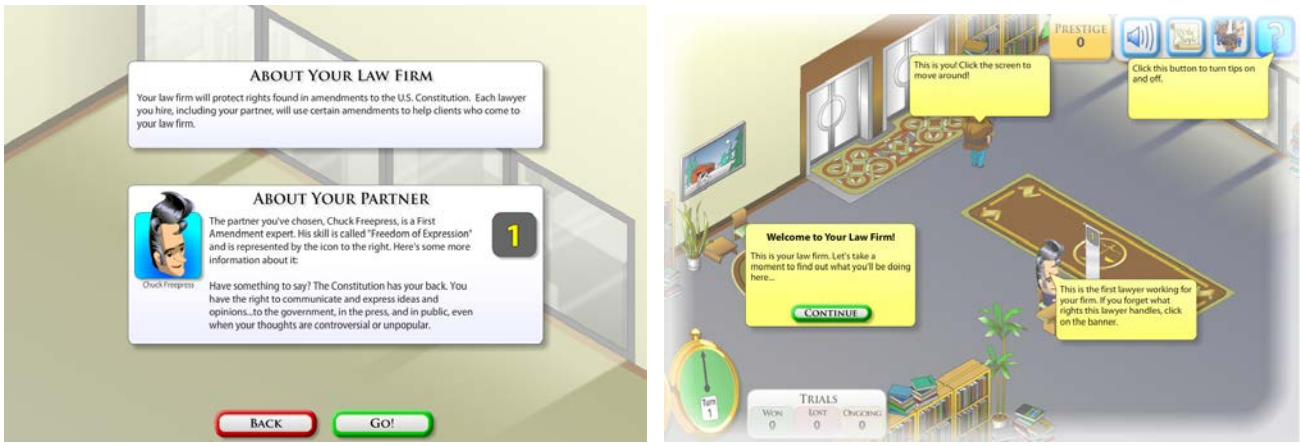

Figure 1: Screen Shots Illustrating Conceptual Goals and Scaffolding in Do I Have a Right?

One aspect of the games that emerged quickly, in addition to the concept based design, was the affective reaction that was intended from playing some of the games. For example, the research assistants who played Executive Command were noticeably stressed trying to juggle all of the demands of their avatar president, and those who played People's Pie talked about their frustration with having to borrow money and how much they empathized with frustration felt by legislators related to budget issues. These affective elements are an affordance that also aligns with the goal of simulating civic related roles identified in the Civic Mission of Schools report.

One of the major constraints of these games is that they are largely text heavy, and may present difficulties for students who struggle with reading or for whom English is not their native language. However, given the parameters of this study we cannot make any assertions as to the reality of these challenges. There are also limits to developing conceptual understanding in civic related concepts when only applied to abstract or even absurd examples in the games versus more realistic or contemporary examples. For example, in People's Pie students are asked to weigh funding programs such as a "sniffing cat" program for Homeland Security instead of more realistic programs where players may have to make more difficult decisions based on what they think is important to fund.

The engaging aspect to these games is especially important when compared to other educational games or even the first iCivics game, *Supreme Decision*, which was made by a different game designer and was also a strategy game but much slower and even more text heavy, and less well scaffolded. These games are attempting to be engaging and appealing for young people who may or may not spend hours a day playing games.

Games and Democratic Education

There is no doubt that the games are designed to be both engaging and in alignment with traditional civics content, especially large key concepts. How well the games meet other goals of democratic education is more debatable. Two of the games include largely closed issues (Do I have a Right?, Immigration Nation). These games are designed to help students learn the "correct" answer related to concepts surrounding constitutional rights and immigration law, respectively. However, does taking on the role of an immigration agent help the player to learn what it means to be a citizen? Does it present the many complexities in immigration policy and the debates around it? In this case the game is designed for a young audience and focuses largely on the more explicit policies, such as the example in the opening illustrates, that wanted criminals will not be allowed citizenship, and immigrants who have expertise needed for the US economy, will. This tension between explicit knowledge and deliberative democratic education, of course, reflects the larger tension in the field of civic education and the multiple and competing perspectives on what should be taught and how it should be taught. Further, although the language used is meant to be engaging, is calling the "boat thief" a "jerk" the type of modeling that we want for citizens?

For the two more open games, Executive Command and People's Pie, a different tension emerges in game design. For both of these games, winning is measured by the amount of citizen support or satisfaction that the player's decisions create. The goals of the game are to help students to recognize the various roles of the executive branch and the tensions involved in making budgetary decisions at the Federal Level. Given the fictional world of the games, however, also again involves simplifying the issues and focusing more on figuring out how to win the game than the ramifications for cutting spending on entitlements (People's Pie) or for advocating a stricter foreign policy role (Executive Command). Here the tension that emerges is the one between the goal of the game (winning through citizen satisfaction) and the goal of democratic education. Again, this is an area for continued dialogue between game designers and democratic educators.

This seemingly arbitrary reward system for "winning" in these games did not seem to be tied to the specific concepts or issues, but more so for showing that you "won" by learning the rules. This is problematic because although these games reflect real contemporary issues, the content and rules are based on "textbook" versions and not more dynamic or realistic examples. For example, every scenario played in Executive Command includes a war with a fictional country. However, the model is based on a war in the constitutional sense, with formal declarations, and not the kind of conflicts the US has been involved in since World War II. The game also does not allow you to avoid conflict or settle the issue without being encouraged (or forced) to win by the use of military force. This tension between actively engaging in "textbook" civics concepts, in this case knowing that the executive is commander in chief over a military that includes a navy, army, etc., versus using examples drawn from contemporary or more dynamic examples of these issues reflects a larger tension in the field of civic education as a whole.

Ideological Complications

In addition to the tensions that are illustrated above, and that reflect larger tensions in the field of social studies or democratic education, there are also emerging themes related to the ideological worlds of the two open games in particular. It is easy given the interactive nature and design of these games to see them as fun, engaging, and neutral. However, it is important to remember that there are people behind the designs of the game; people with political views and values and with different goals and objectives. They also have ideas about what it means to learn, how people best learn, and what it means to be a citizen. In the case of these games, it may be particular strategies and outcomes that will help the player win the game. Will they win by applying a strategy of low taxes and spending? Or will citizens be more satisfied by higher corporate tax rates and robust entitlements? Is it better that we have a president with a strong hawkish foreign policy or one that focuses on domestic issues?

However, for the most part the player is not faced with decisions based on a fair hearing of competing points of view. Instead, there appears to be a "right" answer the game is designed to push the player toward. This is done through the examples provided during activities like giving a speech to Congress on a policy area that the player has selected. For example, if you select "security" as an administrative priority in Executive Command and give a speech to a joint session of congress to promote the issue, you are given two choices at each stage of your "speech" to try to get a high rating. The options you get, however, are not one of engaging through diplomacy versus using the threat of military force, or an isolationist versus interventionist stance toward a nation overseas that asks us to intervene. Instead one legitimate perspective on the issue is given alongside a rather ridiculous answer intended to be "wrong." In the case in Figure 2, a point about shutting down all of the fire and police stations so they can go on vacation is juxtaposed to one about spending all day and night guarding the country from terrorism. These options do not engage the player in weighing legitimate competing options and instead push a player toward a particular ideologically driven view on foreign and domestic security.

Figure 2: Examples of Policy Options in Executive Command

Again, the tension between game design and democratic education emerges in regards to designing a game to teach content for which there is an agreed upon correct answer versus areas within the field where we want students to deliberate and make informed decisions from multiple and competing legitimate perspectives.

Potential Implications

These are not simple "drill and kill" games similar to those used in classrooms of the past. These games attempt to engage kids at a conceptual level using "mock" situations. There are many great affordances to the iCivics games. On the other hand, the game design uses abstract and sometimes almost absurd situations and content to help students develop and apply their understanding of these concepts. This tension raises questions about how suitable current game design is, at least as illustrated in these games, for democratic education – especially a version of democratic education that envisions young people deliberating and making informed decisions on complex issues. There are limits on what can be done in a game designed to be easy to access and use, but one of the goals of using a game with the affordances of the iCivics games should be taking advantage of more dynamic and contemporary issues and data.

Perhaps these games are a first step to at least helping young people develop the concepts that can be applied to real situations later. Even this, however, will likely require a role for a teacher or parent to help them reflect upon, and apply, the concepts that they learn in the game to those they represent in the world. Will students who are able to tell you the definition of the First Amendment be able to understand the ruling of the US Supreme Court in Johnson v. Texas (1989) case on flag burning? Will students be able to apply their understanding of an accurate role of the executive in times of war based on their Executive Command scenarios that are devoid of the War Powers Act? The metaphorical, conceptual, or abstract knowledge students may gain from playing the games needs to include an understanding of how it applies to the world outside of the diegesis of the game. It is with these goals in mind that game designers, democratic educators, and researchers should work together to take advantage of the many affordances evident in the iCivics games to more strongly work toward the goals of democratic education.

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