Policy Considerations

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Key Summary Points

1 Interactivity is a key driver behind current policy toward video games everywhere, from the national all the way down to the classroom level.

2 Creating an environment that is altogether learner-centered, knowledge-centered, assessment-centered, and community-centered maximizes effective learning potential and should be considered during the creation as well as implementation phases of policy.

3 Best practices are rooted in public awareness, collaboration, and social responsibility to self-regulate game usage.

Key Terms

ESA
EMA
ESRB
Interactivity
Learner-centered environments
Knowledge-centered environments
Assessment-centered environments
Community-centered environments

Introduction

With each passing year, video games become a larger part of society and are, by now, an inevitable component of childhood. Therefore, there are questions abound regarding the appropriate social policies for video games that did not exist for previous generations. This chapter will examine the policies that affect child consumers directly, particularly those associated with childrens' relationship with video games, including which games they have access to and how they are allowed to engage with them.

This chapter includes synopses of some of the latest state regulations that have limited child access to video games regarded as "mature" by the Entertainment Software Ratings Board (ESRB). Additionally, it reviews court cases that have been filed in response to these state regulations and claiming that they violated the Constitution's First Amendment.

In addition, the chapter will discuss the concept of interactivity, a learning framework that has guided video game policy at the state and national levels as well as in the classroom. This is followed by a framework for implementing effective learning in academic settings, which is learner-based, knowledge-based, assessment-based, and community-based. Together these two frameworks provide the basis for this chapter's policy considerations, which bring to bear the following questions: What are the most effective ways to integrate video games into classroom curriculum? How can video games be tailored to fit classroom needs? What government policies aimed at policing game use, if any, are viable tools to guide positive video game consumption?

Lastly, this chapter will take an in-depth look at three case studies. The first study is of one New York City school that has a unique policy of incorporating video games into every aspect of the school day. The second is of a publishing company that focuses on game-based learning. The company's policy is to produce quality game-based learning platforms to prepare today's kids for the 21st Century. The third and final case study focuses on one video game modification in particular that can be used to great affect in the classroom and equip children to work well within an open, self-regulating policy environment.

Key Frameworks

Two key frameworks to be mindful of when discussing the creation of effective educational policies are interactivity and the Bransford et al. (2000) model for successful learning environments, which is explored here as a guide for implementing game-based learning in a meaningful way.

Interactivity

The concept of interactivity is integral to understanding video games, along with the culture they foster, and the policies surrounding them. Yet, at least for the past two decades, this term has been overused and commonly misunderstood. Todd Zazelenchuk (1997) acknowledges this point, as he likens the term "interactive" to the ubiquitous buzzwords "low-fat" and "user-friendly" (p. 75) Similarly, Chris Crawford (2013) derides the common usage of the term, writing that "[i]nteractivity is without a doubt the most grossly misunderstood and callously misused term associated with computers" (p. 25).

Despite this clear confusion, the term has still been used as a deciding factor in the court cases that have shaped video game policy as well as societal understanding of gaming. For example, Michigan's Protect Children from Ultra-Violent and Sexually Explicit Video Games Act (2005) and Oklahoma's Materials Harmful to Minors Bill (2006) both implement a highly regulatory policy framework by banning the

sale of video games deemed violent to minors (under 18). Michigan's act intends to accomplish this goal by prohibiting the sale of video games that are rated by the ESRB as Adult or Mature to anyone under the age of seventeen. Oklahoma's measures, however, go a little further. In this case, the state attempts to decide for itself what constitutes "violence" in a game. Based on this decision, a violent game is, then, not only restricted from being sold to minors but is, also, to be stored out of plain sight at retail locations that carry the product. Both Michigan and Oklahoma's state legislatures use the concept of interactivity to justify the need to regulate video games and not other media sales, such as TV or DVD. Both states believe that due to the interactive nature of video games, consumers take on a more active role in the violent or lewd behavior that is portrayed and, therefore, are affected more than if they were just passively observing this behavior.

The two states maintained this belief in the face of court cases filed against them following the implementation of their video game regulations. In *Entertainment Software Association v. Granholm* (2005) and *Entertainment Merchants Association v. Henry* (2006), respectively, the validity of the detrimental nature of interactivity was called into question, not to mention an entire regulatory framework that would ban speech so readily. In these cases, members of the gaming industry challenged the state policy on the grounds of First Amendment violation. The Entertainment Software Association (ESA) and the Entertainment Merchants Association (EMA) both vied for a more open policy towards video games that would treat the gaming industry equally under the law, providing them with similar rights and privileges allowed to their media counterparts in the movie industry. The new policy would employ the use of the rating system developed by the ESRB for the industry to self-regulate rather than have regulations imposed upon them by the state.

Similar legal battles have emerged all around the country, one even making it to the Supreme Court. This case, *Brown v. Entertainment Merchants Association* (2011), deals with the constitutionality of the California state legislation that banned violent video game sales to minors without a parent or guardian's supervision. The case set a federal precedent on violent video game policy and the perceived effectiveness of the ESRB rating system, as the court ruled that the state of California had no right to restrict video game sales to minors based on their arbitrary value judgments and unsupported claims that the interactivity involved in playing a violent video game causes children to act more violently in the real world. In his decision Justice Scalia writes that "[t]he video-game industry has in place a voluntary rating system designed to inform consumers about the content of games. The system, implemented by the ESRB, assigns age-specific ratings to each video game submitted...[t]he Video Software Dealers Association encourages retailers to prominently display information about the ESRB system in their stores; to refrain from renting or selling adults-only games to minors; and to rent or sell 'M' rated games to minors only with parental consent" (*Brown v. EMA*, pp. 15-16). Scalia goes on to point out that this voluntary rating system regulates the industry quite adequately and, in fact, outpaces both the music and movie businesses (*Brown v. EMA*, 2011, p. 16). Furthermore, California's crusade against violent video games is just "the latest episode in a long series of failed attempts to censor violent entertainment for minors" (*Brown v. EMA*, 2011, p. 17). Herein lies the crux of the decision. Scalia draws

a straight line between the video games of today and past forms of popular media that were once denounced by government officials, such as Saturday morning cartoons, movies, and dime novels. By making this connection the court attempts to show that nothing has changed and that even the concept of interactivity is not novel or applicable only to video games. Scalia writes:

> California claims that video games present special problems because they are 'interactive,' in that the player participates in the violent action on screen and determines its outcome. The latter feature is nothing new: Since at least the publication of The Adventures of You: Sugarcane Island in 1969, young readers of choose-your-own-adventure stories have been able to make decisions that determine the plot by following instructions about which page to turn to *(Brown v. EMA*, 2011, p. 10).

Scalia buttresses this point with an opinion given by a fellow judge in the decision in *American Amusement Machine Association v. Kendrick* (2001), a similar case on violent video games. Scalia asserts:

> As Judge Posner has observed, all literature is interactive. 'The better it is, the more interactive. Literature when it is successful draws the reader into the story, makes him identify with the characters, invites him to judge them and quarrel with them, to experience their joys and sufferings as the reader's own (*Brown v. EMA*, 2011, pp. 10-11).

In this way, Scalia takes the travails of interactivity off of the table, as he explains that even reading is participatory and, thus, would stand to be under fire by California's reasoning.

With all of this being said, interactivity, its meaning and its regularity within one's life experiences, is vital in the Court's reading of California's proposed gaming regulations. However, the Court's definition of interactive, as based upon user participation and ability to manipulate outcomes, would be considered by many experts as insufficient. Chris Crawford (2002), for example, penned a widely referenced definition of interactivity, asserting that the term entails "a cyclic process in which two actors alternately listen, think, and speak" (p. 3). This definition characterizes interactivity as a form of conversation. In this way, Crawford would describe Scalia's summation that great literature is interactive as incorrect. No matter how much a reader is engaged or immersed in a story they are simply reacting to it, even if they can participate in deciding a story's outcome, because the story cannot think, process, or work collaboratively with its audience.

Acknowledging that interactivity has a number of competing definitions, Salen and Zimmerman (2004) give a succinct overview of the tenets of each. But rather than rejecting any given conception, or refining them into a new one, the authors put forth a model that accommodates them all. This paradigm opts for four different modes of interactivity (Salen & Zimmerman, 2004, pp. 59-60), which are delineated below:

1. **Cognitive interactivity; or interpretive participation:** Engagement on the psychological, intellectual, and emotional level between a person and a system. The imaginative interaction between a player and his or her adventure video game is a prime example of this form of interactivity.

2. **Functional interactivity; or utilitarian participatio**n: The interaction between a person and the material elements of an experience. For example, the ease with which a player can press the buttons on a controller or read the text on the monitor.

3. **Explicit interactivity; or participation with designed choices and procedures:** This mode encompasses what is most commonly referred to when people speak of interactivity and describes the choices, occurrences, simulations, and other methods employed throughout the programmed experience of an interactive encounter. It speaks to the active participation that does not occur during non-interactive experiences, such as watching a movie. For example, clicking a link or controlling an avatar.

4. **Beyond-the-object; participation within the culture of the object:** The interaction outside of, yet based upon, the designed system. Usually communal, a prime example of this mode is fan culture, wherein fans come together to produce their own fictions and questions, using the designed system as raw material to create this new reality and level of interaction.

Salen and Zimmerman (2004, p. 59) argue that interactive activities employs most, if not all, of the above modes simultaneously. Additionally, these modes should not be looked at as distinct categories with finite boundaries. Instead, they are fluid in nature, overlapping in any given moment of interactivity and providing unique ways of understanding.

Framework for Implementation

Bransford et al. (2000) provides a framework for designing effective learning environments in his book, *How People Learn: Brain, Mind, Experience, and School.* Under this model, education policies should aim to create an environment centered around learners, knowledge, assessment, and community. Bransford (2000, pp. 151-152) argues that the successful alignment of all four of these environments will allow for the most effective educational setting. A brief synopsis of this schema (Bransford et al, 2000, pp. 131-149) is as follows:

1. **Learner-Centered Environments:** These environments acknowledge the individual learner's culture, knowledge, skills, beliefs, and attitudes. It employs teaching techniques referred to by Ladson-Billings (1995) as culturally relevant, responsive, appropriate, and compatible while aligning with Bell's (1980) concept of diagnostic teaching. Bell's method focuses on what students think of a given task by sensitively discussing their opinions and misconceptions on an issue as well as giving them further scenarios in which they can ruminate and possibly readjust their ideas about the subject. Overall, learner-centered environments diagnose the learner's entry point and work from there, respecting the knowledge a learner comes in with by meeting them at this place.

2. **Knowledge-Centered Environments:** Environments that take seriously what is taught and why it is taught, with a special eye towards what sufficient mastery of a subject looks like, can be categorized as knowledge-centered. This paradigm aims for, not only a learner's acquisition of information but, also, their full understanding of this information and its pertinence. Within this environment a learner's understanding is fostered by teaching in a natural progression so that information does not come off to the learner as disjointed facts to be memorized but, instead, part of a larger, interconnected landscape.

3. **Assessment-Centered Environments:** This type of environment employs two different forms of assessment; those that are formative and those that are summative. Formative assessments provide feedback for improving teaching and learning. An example of this form of assessment occurs when a teacher edits a draft of a paper or presentation. Summative assessments, on the other hand, reveal what learners have garnered by the end of a unit or set of activities and are exemplified by unit exams as well as state sanctioned tests. Environments such as these should assess frequently but not intrusively nor punitively. Instead, assessments can be both formal and informal and should always be learner friendly and for the purpose of further understanding.

4. **Community-Centered Environments:** These environments aim to improve cognitive development by allowing learners to work through problems collaboratively. Notably, community-centered environments do not just encompass the classroom. The paradigm also applies to parents, teachers, administrators, and even their surrounding businesses, regions, countries, and the world. Thus, Bransford vies for an inclusive setting in which learners look to others everywhere as potential collaborators, which fosters a shared sense of ownership in the learning process and communal progress.

When originally conceived, this four-pronged framework did not specifically have a landscape that incorporated video games in mind. At the time Bransford (2000, p. 230) saw the potential for video games as sources of interactivity as well as sites for learner, knowledge, assessment, and community centered environments. However, he believed both the technology industries, researchers, and education policy makers still had a long way to go in creating a communal learning environment of their own from which to harness the potential of video games in an educational setting. Since then, Anderson (2008) has applied this framework to 21st Century technology, specifically online learning. He argues that web-based learning facilitates Bransford's model while simultaneously promoting the framework of interactivity.

Case Study One: Quest To Learn

Quest To Learn is a New York City public school that teaches grades six through twelve. Its integrated curriculum, while compliant with state standards, is rooted in experiential and game-based learning. This methodology has the benefit of educating students in both traditional and 21st century skills.

The school year is split into three trimesters. Every trimester students are presented with new and more difficult "quests," usually games or narrative challenges, that require students to learn new material, share knowledge, reflect, and give feedback for the quest to be completed. This strategy presents information to students in a manner that underscores its utility. The school refers to this method as the cultivation of a "need to know" (Salen et al., 2011, p. 57).

Quest To Learn is partnered with Mission Lab, a group made up of both game designers and curriculum specialists. Mission Lab staff works in the school to help teachers design games and curriculum for the classroom. This model allows for an intersection between the school, nonprofit, and gaming industry spaces, taking principles from each to design a curriculum that is most beneficial to students. This collaboration accords precisely with Donovan's (1999) suggestions to create a culture of collaboration between researchers and educators. In so doing, Quest To Learn's educational approach is driven by scientific Mission Lab's research and Mission Lab's research is guided by Quest To Learn's specific academic needs. Hence, a symbiotic relationship is formed between research and policy while, at the same time, engendering a sense of trust and community. are engendered.

With the help of Mission Lab, Quest To Learn has developed a gaming policy that attempts to change the relationship students have with games. Students learn to relate to games not as products they consume, but rather as tools they manipulate. The school's policy is to present games as a variety of different systems, within a systematic world. For example, certain games are of value to students as "authoring systems" and others as "content systems." There are also manipulating systems, trigger systems, gateway systems, reflective systems, ideological systems, and code systems, to name a few (Salen et al., 2011, p. 85-90). By establishing a policy that requires students to think of games as systems that they control, children not only learn educational content, but they also learn to game responsibly. In this way, the Quest to Learn policy helps children orient themselves inside of a national policy framework that is trending toward openness and wide availability of games deemed to have inappropriately violent or sexual content by some.

Key Findings

Based on the frameworks for interactivity and implementation provided in the previous section, there are three areas of pertinent research findings to consider: (1) effects of interactivity; (2) success of the current ESRB rating system; and (3) key needs of the education community.

Interactivity

Due to its common usage and invocation in policy defining court cases like Brown v. EMA, a wealth of studies have been conducted to assess the effects of interactivity on the learning process. Studies done by the Vanderbilt Learning Technology Center on how math students respond to the integration of interactive adventure games into their curriculum found that students who played the interactive games had superior comprehension and complex problem solving skills along with a more positive attitude towards academic challenges when compared to their peers who were not exposed to such interactivity (Pellegrino, 1991). On the other end of the academic subject spectrum studies have shown that interactive multimedia can be used as effective tools to teach foreign languages, as their use in the study of vocabulary increases both word attainment and recall (Lin, 2015). Additionally, interactivity has been proposed as a way to increase learning outcomes for the distance and e-learning communities. For example, Palacious (2013) found that when e-learning systems incorporate interactivity the learning experience is enhanced. He observes that cognitive ability is increased often in the form of memorization or comprehension of the lesson's message.

With all of these studies demonstrating the positive effects interactivity can have on the learning experience it seems to suggest that perhaps those seeking to implement state policies to ban the sale of violent video games to minors are not so misguided. One could argue that it would seem to follow from the studies cited that since interactivity increases learning outcomes one might more readily learn violent behavior if they were practicing it in a violent interactive game. Yet, many studies have revealed that there are no grounds for the claim that violent acts and the playing of violent video games are related. The following are just a few examples pointed to by the ESA (2014) that go into proving this point:

- Lawrence Kutner and Cheryl Olson's *Grand Theft Childhood: The Surprising Truth About Video Games and What Parents Can Do*
- The work of Christopher Ferguson, Stephanie Rueda, Amanda Cruz, Diana Ferguson, Stacey Fritz, and Shawn Smith, entitled *Violent Video Games and Aggression: Causal Relationship or Byproduct of Family Violence and Intrinsic Violence Motivation?*
- Christopher Ferguson and John Kimburn's study, *The Public Health Risks of Media Violence: A Meta-Analytic Review*

Additionally, listed below are a number of studies that found the research and common claims supporting a connection between violent acts and violent video game usage to be faulty and bias-ridden. These studies are used by the ESA (2014) to further undercut video game alarmists and hyper-regulatory policy advocates.

- Thomas Grimes, James Anderson, and Lori Bergen's *Media Violence and Aggression: Science and Ideology*
- Karen Sternheimer's *Do Video Games Kill?*
- Beth Donahue-Turner and Amiram Elwork's *Constitutional Kombat: Psychological Evidence Used to Restrict Video-game Violence*
- Raymond Boyle and Matthew Hibberd's *Review of Research on the Impact of Violent Computer Games on Young People*

At first glance, the above findings, revealing no connection between engagement with violent interactive video games and users themselves learning to act violently in the real world, seem anomalous. It begs the following questions: How powerful is interactivity really? If it increases information attainment and recall how is it said that violent video game users are not attaining and recalling violence? Finally, why are states using interactivity as a basis to restrict certain video games if it does not cause users to learn and internalize the behaviors they employ? A recent study (Delen, 2014) seems to answer these questions, as it finds that interactive environments improve self-regulation skills among users. Moreover, interactivity has been shown to increase user mindfulness (Visser, 2000). In this way, it becomes clear that policy makers should not be afraid of video games. Instead, they should focus on promoting an environment that engages with video games and all media content, for that matter, with a thoughtful eye.

ESRB Studies

Recent surveys taken by the U.S. Federal Trade Commission, the Henry J. Kaiser Family Foundation, and Peter D. Hart Research Associates have all buttressed the Supreme Court's decision in *Brown v. EMA*. These studies have shown that the parents of video game users not only understand ESRB ratings, but also take them into account, and find them to be helpful.

- **Peter D. Hart Research Associates Findings:** The ESRB commissioned a survey of its own to understand the effectiveness of its rating system. This survey ("Parents Increasingly Using ESRB," 2007), conducted by Hart Research Associates, collected data from over 500 parents of children ages 3 through 17 who play video games. It found that a majority of parents use ESRB ratings to regulate what their children play. More specifically, 94% of parents find the ratings helpful and 91% believe such ratings to be accurate. Overall, the survey revealed a positive trend in the gaming world, as attitudes towards ESRB ratings are steadily improving and have never been better.

- **U.S. Federal Trade Commission Findings:** The Commission (2007) concluded that the video game industry outpaces both the movie and music industries in three fundamental ways: (1) disclosing rating information in a prominent and comprehensive manner; (2) avoiding marketing games rated "mature" by the ESRB to children; and (3) restricting the sale of "mature" games to children in retail settings.
- **Henry J. Kaiser Family Foundation Findings:** After a national survey of over 1,000 parents of children ages 2 through 17 in conjunction with six focus group meetings around the country, the Kaiser Family Foundation (Rideout, 2007) found that the majority of parents are very concerned about the amount of sex and violence in the media and would support government policies to ban this content from being aired on television. However, the study also reported that most parents believe that they themselves are doing enough to monitor their children's media usage and that they have more influence on their children than the media does. Furthermore, out of parents who use video game ratings, 58% of them found the current rating system to be very useful. This is a higher percentage of approval than received by music, movie, or television ratings.

Findings from the Education Community

In response to the conclusive frameworks proposed in *How People Learn: Brain, Mind, Experience, and School*, the education research community came together to produce *How People Learn: Bridging Research and Practice* (Donovan et al., 1999). This paper takes into consideration comments from both teachers on the ground and policy makers, in regards to what each group believes it will take to implement the framework proposed by researchers in the original *How People Learn* report.

According to the surveyed teachers (Donovan et al., 1999, pp. 26-27):

- Their relationship with the research community must become collaborative, as open lines of communication between teachers and researchers should be established, along with a foundation of trust.
- Detailed and sustained professional development programming for teachers must be put into place for them to effectively learn and apply the methodologies proposed by the research community.
- The community surrounding the classroom, i.e. parents and administrators, must buy into change. Research-based ideas to be used in the classroom have to be communicated effectively to this larger community, so as to dissuade parental skepticism and complaints often directed to administrators rather than taken up with teachers.

Education policy makers provided researchers with this feedback (Donovan et al., 1999, pp. 28-29):

- Research findings must be delivered in a comprehensible manner, without jargon.
- When research is presented it must be targeted to specific policy making groups because each group has different concerns and jurisdictions. For example, federal policy makers,

governors, state legislators, and school superintendents all have vastly different policy responsibilities and, therefore, separate research needs.

• Research findings should be reported not just as write-ups but directly and through dialogue.

Bridging the Findings

The three categories of research findings that have been described in this section go together to illuminate one larger picture. This being that in today's society, where gaming and digital media are inevitable, they are also beneficial to the learning process. As such, governments and educators should strive to implement policies that do not vilify video games but, instead, promote their proven constructive uses, creating an environment that engages with media in a mindful and productive manner.

Case Study Two: E-Line Media

E-Line Media is a for-profit publishing company that aims to publish games that "engage, educate, and empower" ("E-Line Media," 2014). The company believes that this is the best way to help prepare today's children for the 21st Century. This is based on the recognition of the gap between research that strongly supports game-based learning and the willingness of traditional commercial and educational game publishers to publish such games. E-Line intends to fill this gap by publishing game-based learning products and providing services while, at the same time, investing in game-based projects and educational initiatives.

E-Line has partnered with a number of corporations to publish and support game-based learning platforms that are suitable for use in the classroom, including TeacherGaming, The Institute of Play, HASTAC (Humanities, Arts, Science, and Technology Alliance and Collaboratory), and Fab Lab. These platforms include *Gamestar Mechanic*, *Talkers and Doers*, and *Fab*. It has also worked to create the popular modification of *Minecraft, MinecraftEDU*.

E-Line also provides services to organizations that have the common goal of creating viable games for the classroom. These organizations include the U.S. government, independent foundations, as well as universities. E-Line ("E-Line Services," 2014) services include:

1. **Advising.** E-Line acts as an advisor to organizations looking for help with specific projects, small or large.
2. **Publishing.** E-Line helps companies distribute their products through formal and informal learning channels. It acts as the distributor when its client's product aligns with E-Line's distribution expertise, but.it also finds and manages distribution partners for clients that require a different set of skills.
3. **Executive Producing**. Even where E-Line does not specialize in any aspect of a company's concept, they offer to act as Executive Producers by sourcing outside developers and managing the project through fruition.

4. **Design/Development.** E-Line helps to design and develop concepts that fall within their expertise. If a company's concept involves elements that are not E-Line's forte, they find a developer that does specialize in this area and will bring them in on the project as necessary.
5. **Concept Workshopping**. E-Line works with clients to take concepts from concept to successful support and marketing planning.
6. **Sector Orientation.** E-line helps companies new to game development understand the ins and outs of the game sector generally and the impact game sector, in particular.

E-Line's products and services have made it easier for schools to implement game-based learning policies and for teachers to incorporate gaming in the classroom because a game marked as supported by E-Line means that it was developed in accordance with game-based learning research for the purpose of preparing its users for the 21st Century. Knowing this, schools as well as individual teachers can incorporate E-Line Media supported platforms into the classroom without questioning their academic rationale or viability.

Moreover, E-Line, by simply publishing more game-based learning platforms improves policy by providing more opportunity to measure the effectiveness and viability of these types of games in the classroom and the marketplace, more generally. Commercial and educational game publishers become more comfortable investing in educational games as evidence of market success mounts. In this way, educational game publishing will come into the 21st Century.

Assessment Considerations

There are many levels of assessment that must take place to understand the effectiveness of video game policy. How do we assess policy on the state, community, and school levels? In answering these questions, evaluations of violence and the ESRB rating system should take place. At the same time, measures of satisfaction and academic success among students whose schools have a gaming policy must also be observed.

1. **State level:** One form of assessment that is constantly pointed to by the ESA are the national violent crime rates and how they trend as our policies toward violent video games become increasingly open. Another mode of state assessment is academic testing. Through these tests, academic outcomes of schools that incorporate interactive gaming in their curriculum can be compared to those that do not.
2. **Community level:** Implementation of annual surveys by the gaming industry monitoring parental use and awareness of the ESRB rating system, like those that Peter D. Hart Research Associates conducts, as commissioned by the ESRB, should be continued. Regular surveys monitoring the effectiveness of the same system should continue to be conducted by the Federal Trade Commission and reported to Congress to ensure that the

rating system is truly working and understood among consumers in our communities. Additionally, schools should implement mechanisms to receive feedback from the those they serve. This will assess satisfaction while introducing a dialogue that fosters and extends a sense of community.

3. **School level:** State test results should be monitored by schools that implement a gaming policy to ensure that gaming policy implementation does not detract from learning standards. Frequent individualized conferences and evaluations between teachers and students, such as those conducted at the 6-12 grade school Quest To Learn, can be used to observe how the school's gaming policy is internalized by each student.

Future Needs

There are many surveys and studies that reveal the effectiveness of parental education on ESRB ratings. Less clear, however, is the utility of rating systems for educators as they incorporate games in the classroom. A system of ratings that helps teachers identify games that align with the latest research on effective game-based learning would be useful, as would more peer-learning opportunities among educators. In addition, the field would benefit from more extensive collaboration between researchers and educators to create applicable game-based educational tools. The development of more games based on educational research is needed to provide proof points for policy makers and the video game industry to identify effective teaching methods. Finally, additional research needs to be conducted to reveal the types of games that fully utilize the principles of interactivity to promote the self-monitoring behaviors necessary for child development.

Case Study Three: *MinecraftEdu*

The game *Minecraft* was first developed by Markus Persson of the independent Swedish game development company Mojang. Within a few short years of being released, the game saw much success and is now played by millions of people ("*Minecraft* – Game," 2014).

It is reasonable to conclude that so many people find entertainment and utility through this game because of its sandbox format. This format allows for the user to make of the game what they will, essentially using it as a platform to create an almost endless number of virtual worlds. These worlds are created by the player using blocks made of material found in the real world, such as water, wood, metal, soil, and minerals. The blocks available for the player's use vary depending on the biome within which they choose to operate. Players are able to take their pick of more than ten biomes ranging from the desert to the ocean allowing not just for more creative options, but also for more realistic game-play.

Due to the open-ended nature of this sandbox game and the platform it provides for its users to create life-like scenarios, *Minecraft* became an instant hit among teachers. In response, TeacherGaming LLC and E-Line Media created the modification *MinecraftEdu*. This modification, or mod, is tailored specifically to educators. One custom feature is that *MinecraftEdu* allows an entire classroom to connect

to the server and begin playing easily, whether connected to the Internet or not. It also allows teachers to control the terms of the game and write their own instructions into blocks for the students to use. Additionally, a menu soley accessible to the teacher lets them easily control and monitor the students as they play the game.

This modification has become a favorite of teachers at all levels of education, from elementary to graduate school, because it is extremely user-friendly for teacher and student alike. Moreover, this ease allows an entire classroom to reach its learning goals without being bogged down by platform settings that are not meant for school use and may, thus, pose barriers to working efficiently.

While *MinecraftEdu*'s versatility makes it an attractive teaching tool for many, others have found the sheer amount of possible applications for the game to be daunting. A number of teaching resources have grown up around the game to address these concerns. For example, a community of teachers who use this mod has come together online to share their advice, experiences, and even lesson plans. This valuable information, is shared on the *MinecraftEdu* wiki as well as blogs like The *Minecraft* Teacher and Edutopia's game-based learning blog, to name a few, making *MinecraftEdu* accessible to even the most unfamiliar teacher. Another useful resource is The *Minecraft* Teacher Youtube channel. Through these various avenues for sharing information and teacher experiences, *MinecraftEdu* has sparked a collaboration and dialogue between teachers around the world and has expanded learning communities and fostered the type of knowledge-based, learner-based, and community-based environments that Bransford (2000) advocates for in effective education policies. Moreover, this new community facilitates the switch between non-game-based classroom policies and policies that incorporate interactive gaming. This is because a teacher new to game-based learning can refer to the policies outlined on various *MinecraftEdu* blogs rather than stumbling through the process alone, likely wasting valuable classroom time, in an attempt to acclimate themselves to the new environment.

MinecraftEdu is an effective teaching tool because of its conveniently modified features meant for the classroom. Perhaps more important, *MinecraftEdu* gives children the autonomy to create with ease. Its sandbox format is highly useful in an age where national policy does not restrict access to games based on content. By providing a platform for children to create and learn within a space that is almost completely open by nature, children exercise self-regulation out of necessity. In this way, *MinecraftEdu* fosters mindfulness in children.

Best Practices

Based on this chapter's findings, the following should be taken into account when attempting to create meaningful and equitable policies regarding video games and simulations:

1. **Government should be objective in policy making.** Although this seems like an obvious point, it is an important one. Objectivity is often assumed to be a principle of our fair government system, yet it is rarely practiced. This is evidenced by the continued efforts of state-level policy makers to regulate video games more harshly than other forms of media and ignore the First Amendment in the process. Given that our society is trending toward even more ubiquity in video games and simulations, it is unsustainable and unfair for government policies to reflect a bias against them.

2. **Parents and guardians should know what their children are playing.** The ESRB ratings system has been deemed an effective measure of which games are age-appropriate. This system, however, is only as effective as the parent picking the game for their child makes it. If parents do not take the time to understand the ESRB rating of a game, the whole purpose of the system is negated.

3. **The gaming industry should prioritize consumer awareness**. As with the previous point, if consumers do not understand the ESRB rating system, the system is meaningless. Thus, if the gaming industry wants to maintain relative autonomy by having its own rating policies rather than a government imposed system, it is in its best interest to educate consumers through continued PSAs and programs.

4. **Schools should teach students how to negotiate the media they are constantly absorbing.** The best school policies will teach students not just to consume media, but also to use it analytically and be thoughtful about what they learn from it.

5. **Collaboration should be fostered on all fronts.** Collaboration fosters interactivity and community-centered mindsets, which both increase learning outcomes. Therefore, teachers should make collaboration a key element of the classroom experience. While this best practice seems fairly obvious and commonplace it is important that the cooperative schema goes far beyond just individual classes. Entire school policies should be aimed at fostering collaboration between its students and, also, with their parents, the larger region, and the world. Additionally, researchers must work with these policy makers to inform them of their findings, help implement them in educational settings, and conduct further research that applies to educators' needs. In the same way, video game developers should work with both researchers and policy makers to create the most effective games for learners while meeting the demand for research-backed educational games and providing proof points for further research.

6. **School policies should promote interactive environments that are learner, knowledge, assessment, and community based.** The creation of these environments should take center stage when teachers and administrators are forming new policies that affect the school in any way. Furthermore, they should be revisited regularly while policies are being

implemented to ensure that these environments are being produced and fostered most effectively. This mentality will also help teachers create policies on game incorporation in the classroom, as video games can be vetted for use based on their potential for fostering the targeted environments.

Resources

Websites

E-Line Media's Website (http://elinemedia.com/)
Entertainment Software Association Website: (http://www.theesa.com/)
Entertainment Software Ratings Board Website: (http://www.esrb.org/index-js.jsp)
Entertainment Merchants Association Website: (http://www.entmerch.org/)
Edutopia's Game-Based Learning Blog (http://www.edutopia.org/blogs/beat/game-based-learning)
Institute of Play's page on Quest Schools (http://www.instituteofplay.org/work/projects/quest-schools)
MinecraftEdu (www.minecraftedu.com)
Minecraft Teacher blog. (http://minecraftteacher.tumblr.com/)
MinecraftTeachr YouTube Channel (https://www.youtube.com/user/MinecraftTeachr)
MinecraftEdu Wiki (http://services.minecraftedu.com/wiki/)
Quest to Learn (www.q2l.org)
West, D. M., & Bleiberg, J. (2013). Education Technology Success Stories. Brookings Institution.

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