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Rethinking Technology & Creativity in the 21st Century: Empathy through Gaming – Perspective Taking in a Complex World

By Liz Owens Boltz, Danah Henriksen, Punya Mishra, and the Deep-Play Research Group*, Michigan State University

"Can I see another's woe,
And not be in sorrow too?
Can I see another's grief,
And not seek for kind relief?"
–William Blake,
"On Another's Sorrow"

"To love our enemy is impossible.
The moment we understand our enemy,
we feel compassion towards him/her,
and he/she is no longer our enemy."
–Thich Nhat Hanh

In 2009, following the announcement of the retirement of Supreme Court Justice David Souter, Justice Sonia Sotomayor was the first Hispanic, and third woman in history, to be nominated to the Supreme Court of the United States. Despite a strong, impressive track record as a justice and a legal scholar, Sotomayor found herself in a somewhat defensive position against attacks from many in the opposition party. Interestingly, these concerns were not spurred by anything Sotomayor herself had said or done—but rather by a comment from President Obama that referenced her capacity for "empathy" as being an important and positive quality for the job. As the President noted, "I view that quality of empathy, of understanding and identifying with people's hopes and struggles as an essential ingredient for arriving at just decisions."

During her confirmation hearings, many senators raised concerns (even alarm, in some cases), questioning whether empathy should have any place in a judicial system. As Senator Jeff Sessions stated, "Empathy for one party is always prejudice against another." But for any person with an accurate knowledge of the term *empathy*, or of human thinking and behavior, it is clear that these opponents were voicing one of the most common misunderstandings of what empathy is, what it means, and what it can offer for effective thinking in any

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situation. Psychologists observing the situation were perplexed at these worries over her empathy—wondering to themselves if they had perhaps missed some unspoken "dark side" to empathy (Seltzer, 2009). The opposing comments directed at Sotomayor revealed a mistaken conflation of empathy with sympathy.

Empathy is defined as the capacity to understand or feel what another person is experiencing, from the other person's frame of reference; i.e., the capacity to place oneself in another's shoes. This ability, we argue, is an ideal quality of thinking for anyone in the position of making judgments about complex human situations.

Although empathy is often misunderstood as being subjective in nature, we argue that empathy is primarily a cognitive skill that actually enhances objectivity and legitimate understanding of a situation. If we are not able to fully consider and understand perspectives, experiences and situations that are different from our own, then we are shackled by the boundaries of our own life experiences and view of the world. It is only a person who practices empathy who can step outside of their own experience to consider a range of alternative factors, circumstances and points-of-view—and thus is truly capable of being objective. In fact, lack of empathy (i.e. ignoring the considerations of others) is often related to anti-social behavior and decision-making.

It is important to distinguish between empathy and sympathy. Empathy provides us with an ability to understand a situation and other people or parties without having to accept or agree with their points of view, whereas sympathy simply refers to feelings of pity and sorrow for someone else's misfortune. These two concepts are not the same thing. Sympathy is a feeling or emotion, while empathy involves a valuable cognitive skill necessary for fully understanding people and situations. Because this misconception is so common, empathy does not always receive the attention and focus that it should. From this we see situations, as with Justice Sotomayor, in which even U.S. senators in leadership positions do not understand the meaning of the term or its importance for effective thinking and judgment.

In our previous work, (see Mishra, Koehler, & Henriksen, 2011 for a first draft of our ideas, and previous articles in this on-going series too numerous to list here) we describe empathy as part of the transdisciplinary skill of embodied thinking. In this framework, embodied thinking involves two related parts. The first is *kinesthetic thinking* – the ways that the senses, movement, balance, and other physical sensations connect with thought processes. The second element is *empathizing*—the ability to identify with and understand the feelings and experiences of another, or to imagine what it would be like to view the world from another's perspective.

In this article we delve deeper into empathy—to better understand it as well as to provide examples of empathy in learning. We additionally discuss a recent popular trend for technology and learning on this subject: The affordances of videogames for fostering empathy. We then illustrate these affordances with descriptions of game play for several recent videogames that have been touted for their ability to promote empathy.

Frameworks for Empathy

The theoretical literature on empathy is diverse and cuts across many fields. There is, however, a general consensus that empathy is a multidimensional construct "that at least temporarily unites the separate social entities of self and other" (Davis, 2009, p. 515). *Cognitive empathy* (sometimes called perspective-taking) is commonly described as the conscious, intellectual process of trying to interpret the emotional state or point of view of another (Davis, 2009; Stephan & Finlay, 1999). *Emotional empathy*, on the other hand, is the unconscious, affective response to another's emotional state. Some scholars have pointed to a third dimension of empathy—identified as *empathic concern* or compassionate empathy—which describes the drive to act once one recognizes and responds affectively to another's emotional state (Davis, 2009).

Engaging in empathy involves the creation of mental models. From a neurological standpoint, there is little difference between the way our brains behave when sensing our own emotions and those of another. In fMRI studies, the same areas of the brain were activated in people observing a smiling or scowling face as they were for people actively displaying those emotions (Goleman, 2006); this sense of connection is seen in terms used to describe this phenomenon by neuroscientists (parallel circuitry, mirror neurons, empathic resonance). As Goleman (2006) notes, "to understand another, we become like the other—at least a bit…we understand others by translating their actions into the neural language that prepares us for the same actions and lets us experience alike" (p. 70).

Empathy is a skill that is common to creative thinkers in a variety of disciplines, from the arts and humanities to science and business (Henriksen, Good, & Mishra, 2015; Root-Bernstein & Root-Bernstein, 1999). Writers and actors engage in empathy and role-play to see the world through another person's eyes—from Stanislavsky's method acting technique to the way Charles Dickens sought to write from the perspective of one of his fictional characters (Root-Bernstein, 1999). This is also a strategy common to technical and scientific realms. Consider astrophysicist Jacob Shaham, who drew upon his experiences in theater to bring physical equations to life—imagining how variables like mass and energy would behave in context; or Richard Feynman, whose groundbreaking advances in quantum physics were brought about by imagining himself as an electron (Root-Bernstein, 1999). In fact, when discussing their work, scientists frequently speak as if they and their colleagues are *within* the systems or models they are studying, or imagining themselves as another sort of organism or particle, to better understand how it acts. All of these anecdotes share the common goal of achieving a deep understanding that is most complete when one

becomes that which they seek to understand. Empathy "permits a kind of understanding that is not attainable by any other means" (Root-Bernstein, 1999, p. 187).

Empathy as an Essential Skill for 21st Century Learning

Charles Darwin identified empathy as a key survival skill, writing that animals who sense and seek to aid each other when in distress tend to flourish through the process of natural selection (Darwin, 1890). More recently, it has been suggested that empathy not only supports sociability, but is *sine qua non* for compassionate action (Goleman, 2006).

Darwin (and many others since) recognized that human beings are more likely to feel empathy—and thus, to act on it—for those we consider similar to ourselves (Darwin, 1890; Goleman, 2006; Stephan & Finlay, 1999). However, engaging in empathy can cause our mental models of self and other to overlap, making us less likely to ascribe stereotypes to others (Davis, 2009). In other words, practicing empathy breaks down differences and leads us to recognize similarities. In this way, "facilitating a perceived similarity between groups may be one of the most powerful mechanisms through which empathy reduces prejudice" (Belman & Flanagan, 2010, p. 8).

This predilection for similarity diminishes when we are face-to-face with someone in distress or pain. Confronted by a pained expression or a desperate cry for help, our neurological wiring creates a mental representation allowing us to (at least for a moment) "feel their pain," and prepares us to help. For the vast majority of human history, these types of direct interactions were the norm. But today, many points of human connection are mediated by technologies—and thus stripped of facial expression, tone of voice, and elements that enhance empathy. Without the immediacy of direct and attuned emotional connection, empathic concern is difficult to achieve; as Goleman writes, "modern life militates against it" (Goleman, 2006, p. 61). Comedian Louis CK, in one of his routines, speaks to the potential damage to empathy from constant use of devices, noting how it sets up a situation where, as he puts it:

> (Kids) don't look at people when they talk to them. They don't build the empathy. Kids are mean, and it's because they're trying it out. They look at a kid and they go, "you're fat." Then they see the kid's face scrunch up and they realize, ooh, that doesn't feel good. But when they write, "you're fat" (in a text), they just move on and go, "hmm, that was fun." (O'Brien, 2013)

While this is an anecdote from popular culture, the same phenomenon is borne out in broader objective terms. Indeed, research on changes in empathy over time indicates that the disposition for empathy is, from a U.S. perspective, on the decline. For example, a cross-temporal meta-analysis of American college students suggests that empathy has declined considerably between 1979 and 2009 (Konrath, O'Brien, & Hsing, 2011). The authors note that their findings are consistent with societal trends of increasing narcissism and individualism, as well as a general decline in charitable donations and volunteerism among young adults since the 2000s, even when controlling for economic factors.

In an increasingly diverse and globally-connected world, the need for empathetic skills could not be greater. Not surprisingly, empathy plays an important role in counseling and conflict resolution professions. For example, medical practitioners who are perceived as empathetic tend to have better clinical outcomes, higher patient satisfaction, lower malpractice liability rates, and better patient adherence to prescribed treatment (Batt-Rawden, Chisholm, Anton, & Flicklinger, 2012). Empathy training also appears to serve as an antidote to physician burnout (Boodman, 2015). Additionally, empathy is a crucial leadership skill; leaders who demonstrate empathy tend to be more persuasive and better able to retain talent. And in today's globalized economy, managing cross-cultural teams requires leaders who are attuned to body language and other cues to identify and address misunderstandings, in ways sensitive to cultural and ethnic differences (Porter, Angle, & Allen, 2003).

Empathy is clearly a useful skill for understanding complexity in human and societal issues. Yet it is also a skill in decline, as we have noted based on recent research (Konrath et al., 2011). This great need for empathetic thinking, paired with the realization that it is in troublingly short supply, makes it a crucial challenge for education to undertake. As astrophysicist Neil deGrasse Tyson has said:

> Humans aren't as good as we should be in our capacity to empathize with feelings and thoughts of others, be they humans or other animals on Earth. So maybe part of our formal education should be training in empathy. Imagine how different the world would be if, in fact, that were 'reading, writing, arithmetic, empathy.
>
> (PETA, 2011)

The question of how empathy can be taught is important—and perhaps is an idea that has not received the attention it deserves. One approach towards developing empathy may be through the use of certain types of digital games—where the design of the game scaffolds the kind of perspective-taking required for developing empathy.

The Affordances of Videogames for Empathy

Videogames provide situated, action-oriented, embodied experiences (Gee, 2003). Within the game world, decisions matter. Because of the agency given to players within the game, videogames are also good at alternately producing feelings of guilt and accomplishment, and all the shades in-between—you, as the player, are responsible both for the choices you make and the consequences that

follow (Squire, 2011). Videogames therefore offer "a functional, or pragmatic, way of knowing, because we make meaning through interacting directly with the world and observing our actions' consequences" (Squire, 2011, p. 143).

Gee (2003) points out that videogame players can learn new values and experience different perspectives through a projective identity—the interface between their virtual and real-life identities that transcends the limitations of both. The immersive narratives of videogames are "embodied in the player's own choices and actions" as they play (p. 82). As a result, videogames have a unique ability to inspire an emotional investment.

What's more, videogames that effectively promote empathy tend to integrate both cognitive and emotional facets. They also often emphasize similarities between the player and individuals or groups represented in the game. In so doing, they can both encourage cognitive perspective-taking, but may also spark an affective response to the plight of others (Belman & Flanagan, 2010).

To illustrate these affordances in greater detail, we explore two different games and discuss the ways that these games can expand or alter empathetic thinking skills for leaners. The first game is titled *Papers, Please* – an indie game that explores ethics and politics. The second, *Migrant Trail*, is a game designed to raise awareness of different perspectives on immigration.

Papers, Please: A Dystopian Document Thriller

Papers, Please (Pope, 2013) takes place in a fictional communist country (Arstotzka); the title sequence steps in time with the imperious, military march of country's national anthem. In the following section we describe the nature of game-play in *Papers, Please*, from a player's perspective to reinforce the situated nature of the game.

Figure 1. Screenshot of the video game Papers, Please (Pope, 2013)

> *You have been selected through the labor lottery to serve as a border inspector; in this role, you are expected to verify the identities of people wishing to pass through the border checkpoint. You share a sparse apartment with your family, which depends on your income. Stark white text on the black screen shows the date: It is November 23, 1982.*
>
> *Pixelated, retro graphics illustrate the setting: You work in a large, industrial complex in which simply-rendered, silhouetted human forms wait in well-ordered lines. Armed personnel stand warily nearby as you analyze passports and permits. Speed and accuracy are valued highly by the Ministry of Admission, but the requirements for entry change by the day. A nervous woman steps up to submit her papers. She and her husband are fleeing the tyrannical neighboring state of Antegria, but she's missing her foreign entry permit (a new requirement).* Compassion *can be costly; if you disregard protocol, you won't be able to afford medicine for your seriously ill son. But if you deny her entry, not only will she be separated from her husband, but she will likely be killed upon her return to her home country.*
>
> *At the end of the day, your expenses, income, and the status of your family are summarized and you realize that your already meager salary has been reduced by fines you have been charged because of the discrepancies you missed earlier. After paying for rent, food, and heat, barely any money is left. Your family is cold and hungry. Your son is getting worse. You'll need to stick to the rules and move much faster tomorrow if your family is to survive. The more people you successfully process according to the rules of the state, the more money you take home at the end of your shift.*

Like most videogames, *Papers, Please* is a procedural model of a system; the rules, moves, and interactions it allows create possibility spaces for players to explore. The game simulates the complex interplay between competing interests, even without high-end graphics or an expansive narrative. It does this by inviting players to question its *procedural rhetoric,* or the arguments it makes about the world through rules and processes (Bogost, 2007). Because they are part of and complicit within this system, players are forced to make difficult moral choices, balancing empathy for the people they encounter in their job with the need to keep their family healthy, warm, and

well-fed. The game is likely to cause players to question oversimplified views about justice, order, and ethics. Murderers, forgers, and terrorists try to slip through—but so do innocent people fleeing tyranny. Is it still wrong to accept a bribe if it is the only way to pay for lifesaving medicine? Critically engaging with the game's procedural rhetoric allows players to expose, critique, and play with its underlying ideologies and philosophy (Bogost, 2007) and place themselves within the mind-set of characters in the game.

Migrant Trail: A Game of Human Proportions

You experience the journey from the perspectives of each member of the crossing party (representing different ages, physical conditions, and motivations). Only a few essentials will fit in your backpack, but you'll need food, water, and clothing for the journey through Arizona. Along the way you must avoid the watchful surveillance of the border patrol, all while fighting dehydration and climbing through treacherous terrain. The game provides feedback on your health, will, and remaining supplies as well as miles and hours traveled. You must decide between slowing down for injured members of your party and leaving them behind to an uncertain fate. You're strengthened by thoughts of your family and opportunities for a better life, and helped by humanitarian aid workers. Each crossing is different; you may make it to safety, be apprehended by a patrol, or die from exposure.

Playing as the border patrol, you're reminded that border agents don't only apprehend migrants; they also provide first aid and recover remains they find in the desert. Haunting electronic music plays as you learn about each agent: Anderson, an outdoorsman from Montana who wrestles with conflicting feelings about his work; Ruiz, who believes in justice and the rule of law; and Silva, whose parents emigrated from Mexico. With a simple interface, you maneuver your patrol vehicle across the desert terrain. You find clues along your route—an empty backpack, then a water bottle. Do you try to locate the person who left these items behind? Or do you continue on your patrol, increasing your chances of apprehending migrants trying to cross the border illegally?

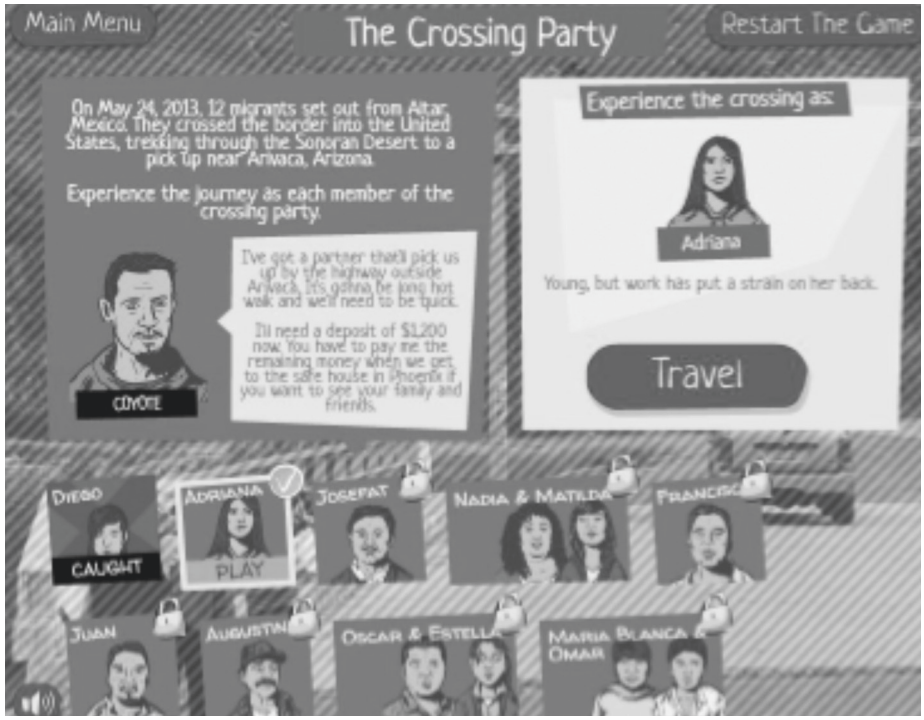

Figure 2. Screen shot from Migrant Trail – migrant perspective (Williams, 2013)

At the end of each shift, the game provides a summary of your actions: Miles covered, migrants apprehended, bodies found, and remains returned to their families. The game doesn't analyze these statistics, nor does it provide guidance about how to judge your "score" (if it even is a score), giving players the responsibility to interpret this feedback and to evaluate choices and consequences.

Even within the seemingly clear-cut division between border patrol and migrants, the game makes clear that each encompasses many nuanced perspectives. Players must make sense

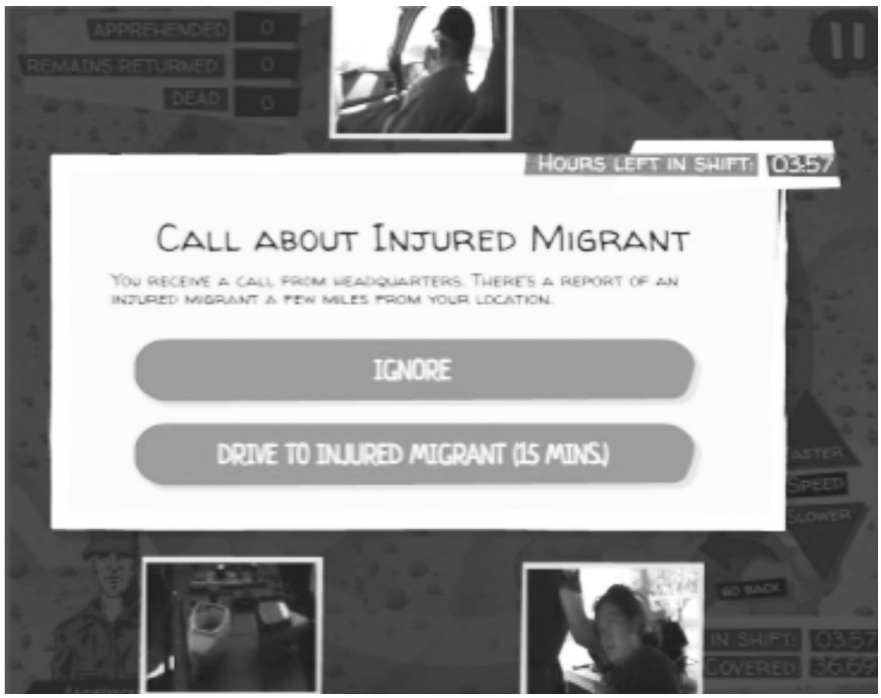

Figure 3: Screen shot from Migrant Trail – border patrol perspective (Williams, 2013)

of the game world from the perspective of characters they inhabit—not only by thinking about a different perspective, but by *acting* within it. Like *Papers, Please*, *Migrant Trail* asks players to make ethical decisions that are packed into quick moves (as opposed to lengthy deliberation) from the perspective of a lower-level agent within a system (instead of a policy maker or head-of-state with power to change that system). Thus, in the game "learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world" (Gee, 2003, p. 166).

To summarize, the games described above are two of many such digital games that are increasingly being recognized for their educational value, and their potential to provide immersive experiences that allow players to build empathy and inhabit perspectives different from their own. Well-designed empathy games can also encourage us to evaluate choices and consequences, and to question the system a game represents. Through these affordances, games can leverage the cognitive and affective aspects of empathy—inviting players to develop the cognitive skills necessary to consider alternate points of view and the circumstances that shape the actions of others, as well as activating a sense of shared similarity and empathic concern for individuals and groups with whom they may not have direct contact.

Conclusion

While empathy is often a misunderstood aspect of cognition, it is of vital importance for developing a better understanding of complex situations, and for effective thinking across disciplines. In an increasingly global and diverse society where many social interactions are digitally mediated, empathy may be valuable to cultivate in learning settings. In terms of technology for learning, we must consider what the affordances of any technology are, and how this interacts with learning goals and context. In this article, we suggest that there are affordances of digital culture that may actually help with development of empathy, in new and interesting ways. We have explored some possibilities in videogames that put players into roles that propel the development of their empathetic thinking.

The notion of empathy as an important skill for education is not new. Nearly a century ago, Dewey argued for the inclusion of educational activities that are "animated by a sympathetic and dignified regard for the sentiment of others" (Dewey, 1916, p. 601). Many educators do not view empathy as an end in itself, but as a means to transformative public discourse. In this, such games may serve as a useful starting point for complex discussions with students about empathy, ethics, politics, social issues, and more. As such, empathy forms the basis for developing the shared understandings, respect for differing perspectives, and cross-cultural competency for meaningful participation in a pluralistic society (Goleman, 2006; Russell, 2011). The need for empathy is immense, and this is a need that education can address. While certain aspects of digital culture can make empathy development a challenge, we can also find the affordances and spaces in which the possibilities for building it are rich and varied. Videogames may be just one of many such avenues for this purpose, and towards this goal, all potential avenues are worthy of attention.

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