Enhancing Healthcare Simulations and Beyond: Immersion Theory and Practice

1. INTRODUCTION

One of the more complex and mysterious concepts in the field of role-playing studies is immersion. Most participants report having experienced the phenomenon of immersion during play, using phrases such as “losing myself in the game” and “the character took over.” However, the definition of the term itself is hotly debated in discourse communities, as participants soon realize that they are describing different sorts of experiences from one another (White, Harviainen, and Boss 2012). Some theorists suggest abandoning the term entirely; debates about the nature of immersion often become unproductive when players feel the need to defend their preferred experiential modes or establish them as superior to those of others (Holter 2007; Torner and White 2012). Ultimately, the term immersion persists despite these attempts to redefine and – in many ways – rebrand it.

Rather than challenging the term, this paper synthesizes the different ways that players and theorists discuss immersion in role-playing games, establishing six major categories: immersion into activity, game, environment, narrative, character, and community. For the purposes of understanding typical modes of engagement, immersion concepts are considered alongside player motivation theories. Furthermore, this article applies these categories, which are drawn largely from game studies, to the field of health care simulation, categorizing specific practices within the simulation classroom according to types of immersion. The goal of this research is to enhance the understanding and design of simulation by appealing to multiple modes of immersion, which may assist in engaging a greater number of students. Diversifying the types of experiences within health care simulations in order to appeal to multiple modalities of immersion holds the potential to create more rich and layered experiential learning situations.

2. IMMERSION INTO ACTIVITY

Some forms of immersion focus upon the repetitive execution of a particular task or activity involving a certain degree of agency (Ernest Adams 2004; Holopainen and Björk 2004; Ermi and Mäyrä 2005), or kinesthetic involvement, as Calleja (2011) terms it. Immersion into activity most closely aligns with the concept of flow. In flow states, players engage in an activity with clear goals, progressions, and immediate feedback that require a balance between challenge and skill (Csikszentmihályi 1975). Entering into flow states requires a certain freedom from...
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as their wound dressings, and checking their blood
pressure (Alexandrou et al. 2012). These activities
measure competency in clear terms, e.g. how many
catheters or IVs the student successfully inserted.
Such learning also can take place virtually, as with
virtual IV training, which offers haptic feedback such
as a video game controller and interface (Wilfong
et al. 2011). The degree to which students in virtual
settings are training the actual sensorimotor skills
needed for the job depends upon the interface,
but such simulations can help improve skill
performance, learner satisfaction, critical thinking,
perceived competency, and role confidence in a low-
risk practice environment (Laschinger et al. 2008).

3. IMMERSION INTO GAME

Another mode is immersion into game, in which
players adopt what Bernard Suits calls a lusory attitude,
meaning that they become “willing to strive toward
the game’s goal using only the methods prescribed
by its rules” (qtd. in White, Harviainen, and Boss
and 2012, 73). Immersion into game involves solving
problems through cognition, including strategic
thinking, abstract reasoning, and tactics (Adams
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Many simulations require students to solve problems
in order to complete the exercise successfully. For
example, some simulations require students to interact
with standardized patients in order to diagnose their
medical conditions or identify medications that
are having an adverse effect (McCabe 2013). These
simulations range from easy to difficult and have
clear win conditions that require some degree of
problem solving (Jumah and Ruland 2015). Like
immersion into activities, game-like simulations
offer students a feeling of accomplishment by
providing clear rubrics for success and failure by
which students can measure their decision-making
abilities and psychomotor skills (Ashcraft et al. 2013).

4. IMMERSION INTO ENVIRONMENT

One of the most significant elements of role-playing
games is that they establish new environments in
which meanings shift from the mundane to the
extraordinary. Immersion into environment involves
exploring the different aspects of an alternate game
world, whether physical, mental, or virtual. Calleja
(2011) refers to this type as spatial involvement,
although he mainly discusses this experience as
immersion into a virtual space rather than a physical
space, as in a larp or simulation.

This concept is informed by the theory of presence,
which communication studies refers to as the
“illusion that a mediated experience is not mediated”
(Lombard and Ditton 1997). In telepresence, an
individual can project their consciousness through
the use of technology to another, real location, such
as a video conference call (Minsky 1980). In some
cases, the individual can manipulate objects in the
other location, e.g. remote surgeries in the field of
medicine. A tabletop role-playing game that takes
place over online video conferencing software is
an example of the use of telepresence in gaming.
Alternatively, with virtual presence, participants
inhabit an imaginary, virtual world such as World of
Warcraft or Second Life.

Proponents of presence theory often argue that
the more realistic the setting becomes, the more
immersion players will experience. Realism in this
sense can mean realistic representational mechanics,
such as a tabletop game’s combat mechanics that
closely resemble the physics in the mundane world.
Alternatively, realism can involve attempting to
render a visual space as accurately as possible:
e.g., high-fidelity simulations in medical training
(Standiford 2014); historical reenactment societies
(Stark 2012); online worlds with 3D virtual reality
technology and advanced graphics; and larp
designed with the 360 degree immersion aesthetic,
in which all props and settings represent real places
and objects in the fictional world (Koljonen 2014).
 Forge theory refers to this creative agenda as simulationism (Edwards 2001) and players with this motivation often feel jarred by details in the fictional world that do not match up to their conceptualization of accuracy according to the game canon (Bowman 2013, 14).

While realism in the execution of game worlds can increase the potential for immersion in many players, some theorists find problematic the assumption that increased production values or mimesis will lead necessarily to heightened engagement. With regard to digital games, Salen and Zimmerman (2004) refer to this assumption as the immersive fallacy (451). Johanna Koljonen (2014) describes similar problems with this mentality with regard to the 360 degree immersion aesthetic in larp, stating that “a complete environment alone does not generate better role-playing” (89). Overall, while a realistic world is not always sufficient to generate a sense of immersion in players, it can help ease the transition from the mundane frame of reality to the frame of play.

This category is particularly pertinent when discussing health care simulations, which often attempt to create a realistic environment for students to inhabit (Rossetti et al. 2014). Examples include simulation labs that feature fully functional emergency rooms, doctor’s clinics, actors portraying standardized patients, and realistic “sim man” dolls that exhibit symptoms and can receive treatment (Ignacio et al. 2015). While these elements contribute to the realism of the scenario, adding additional elements from the other categories may help enhance the immersive potential of these environments.

5. IMMERSION INTO NARRATIVE

Some researchers focus on the importance of a fictional narrative in producing an immersive, participatory experience (Murray 1997; Harviainen 2003; Ermi and Mäyrä 2005; Jenkins 2008; Cover 2010; Björk 2011). Stories engage people by creating an identification between the audience and the narrative events undergone by the characters. Calleja (2011) terms this type of immersion narrative involvement. Transportation theory emphasizes the importance of narrative as a vehicle for immersion, as it transports the mind to another time and place (Gerrig 1993). This transportation effect is particularly potent in terms of persuasion, as identification with narratives may prove more compelling for audiences than messages lacking stories (Green and Brock 2000).

While all forms of narrative are potentially transportative, the act of role-playing is particularly immersive due to the first-person audience (Montola and Holopainen 2012; Stenros 2013). In role-playing games, players both enact the narrative and observe it without an external audience. The emphasis on story as the primary motivator for immersion into a game world is called narrativism in Forge theory (Edwards 2001).

Some health care simulations include narrative enactment or storytelling. For example, a simulated patient may relay a story during a diagnostic session that features both critical and non-critical information (Keltner, Grant, and McLernon 2011; Nestel and Bearman 2014). Alternatively, the simulation itself may feature a narrative structure in which certain “plot points” will unfold at certain times, often based upon actions taken by students (Oudshoorn and Sinclair 2015). Overall, the addition of narrative elements to simulations may aid student immersion by producing the transportation effect.

6. IMMERSION INTO CHARACTER

One of the most common uses of the term immersion refers to the experience of enacting a character (Harviainen 2003; Björk and Holopainen 2004; Ermi and Mäyrä 2005; Yee 2006; Cover 2010; McDiarmid 2011). This type is the major point of divergence from Calleja’s (2011) model. Calleja speaks of affective involvement in terms of becoming emotionally engaged, but does not directly address character enactment. In the Nordic larp community, one philosophy of play called the Turku School posited by Mike Pohjola emphasizes immersionism as the primary goal of role-playing (2003; Böckman 2003). Expanding upon the notion of suspension of disbelief, Pohjola suggests that in order to become immersed, players must actively pretend to believe that the events of the game world are real and respond faithfully as their characters (2004). Additionally, some role-play scholars emphasize gaming as conducive to identity exploration through enactment of alternate personalities or avatars (Bowman 2010; Banks 2015).

While role-playing, players experience what is known in drama therapy as aesthetic doubling (Östern and Heikkinen 2001), sometimes called double consciousness (Saler 2012), in which they experience the game world both as themselves in an observational role and as their character (Lukka 2011; Montola and Holopainen 2012; Stenros 2013; Bowman 2015). The degree to which a character is experienced as distinct from the player differs from person to person, as does the degree to which the player “loses” themselves in the character (Harviainen 2006; Bowman 2015). Regardless of the type of narrative and degree of character immersion, this identification can produce a temporary loss of self-awareness (Balzer 2011, 25).
feelings of greater empathy with people from other viewpoints (Kaufman and Libby 2012), as well as increased self-awareness about a player’s own perspective upon reflection after the game (Meriläinen 2012). Additionally, deep character immersion can produce feelings of catharsis; players often report enjoyment as the result of crying in character or having extreme emotional experiences that they might find unappealing in mundane life, which get processed as positive experiences after the game (Montola and Holopainen 2012).

This concept of character immersion holds great potential with regard to simulation design. Creating more complex characters for students with specific diegetic motivations aside from simple problem solving might enhance the experience for students, particularly with regard to empathy and self-awareness (Anderson and Nelson 2014). For example, nursing students could portray characters with added levels of common emotional and interpersonal complications, such as lack of sleep, problems with difficult coworkers, or issues in their romantic lives. Additionally, simulations specifically designed to produce empathy in students can aid in their social skills. For example, in the Hearing Voices scenario, students play patients with schizophrenia, who are hearing hallucinated voices over earphones while attempting to communicate with doctors. This exercise has no clear win condition and is meant to produce in students greater empathy and understanding for patients with this psychiatric condition (Hamilton Wilson et al. 2009).

7. IMMERSION INTO COMMUNITY

The last category emphasizes immersion as a social state: immersion into community (Bartle 1996; Björk and Holopainen 2004; Yee 2006; Bowman 2010; Cover 2010; McDiarmid 2011; Bienia 2012). For many players and theorists alike, the experience of role-playing immersion cannot be divorced from the social contexts – both in-game and out-of-game – within which they transpire (Stenros and Hakkarainen 2003). This concept correlates with Calleja’s (2011) shared involvement, which includes competition, cooperation, and cohabitation with both human and non-human actors within virtual games. In this sense, role-playing is not an individual activity, but rather a form of shared imagination. This concept of social immersion focuses upon the ability to play with identity through what Todd Nicholas Fuist (2011) calls the agentic imagination. Fuist posits that role-players immerse on three levels of social practice and interaction: 1) their immediate gaming group; 2) the shared imagined space of the game world; and 3) the greater collective identity of the gaming community (114).

Even within the Turku School, Pohjola (2004) stresses the importance of inter-immersion, which describes the ability for players to draw one another into deeper states of immersion through portrayals of character. Similar is the notion of group flow (Walker 2010), an immersive state often experienced by players in sports or musical groups who “get into the groove” or are “in the pocket.”

Many health care simulations require students to practice their interpersonal skills, including team work, bedside manner, empathy, and leadership. Simulations that add interactional elements can enhance their potential benefits by situating scenarios in the social contexts that students are likely to experience in actual practice (Dearmon et al. 2013). When considering Fuist’s theory, health care students in simulations immerse a) into their classes or small groups, b) into their shared imagined space of the simulation environment, and c) into their larger, developing identities as a community of nurses and doctors.

8. CONCLUSION

Health care simulations can increase their potential effectiveness by engaging students through multiple modes of immersion. An example of a successful scenario that involves several types of immersion is the Cardiac Resuscitation Simulation at Texas State University. In this scenario, students work in teams to perform CPR, resuscitate the heart, and give medications to a “sim man” doll, while also attempting to deescalate panicked family members. This simulation features activities; game-like win conditions, as only 50% succeed, even when treatment is applied correctly; a realistic environment; an unfolding narrative; thin characters – e.g. ER nurses; and communal interaction with other nurses and the patient’s family. While the scenario could be improved to add more complexity to the character descriptions, overall, this simulation engages all six modes of immersion. Similarly complex scenarios are used in psychiatric nursing to train students to assist patients with mental illnesses such as depression (Rick, Zolnierek, and Holmes 2014). Ultimately, these immersion categories could benefit simulation designers by helping them understand the elements that enhance student engagement. Consciously including these aspects in scenarios can broaden their potential learning impacts.
REFERENCES


BIOS

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