Chapter 66
The Minecraft Aesthetics: Interactions for Reflective Practices

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ABSTRACT

INTRODUCTION

Game-based learning environments adopt games' systematic and data-driven pedagogies to engage learners in problem-solving (Johnson, Adams-Becker, Estrada & Freeman, 2014; Gee, 2008). Some game studies elaborate on rhythmic immersion of games and how game aesthetics could be an inspiration for learners to comprehend academic content (e.g., Squire, 2011). Hunicke, Leblanc and Zubek (2004), in theorizing the game design and research approach, defined aesthetics as the "desirable emotional response evoked in the player as the player interacts with the game system" (p.2). In this paper, we connect gaming experience with how learning can be an aesthetic experience. An aesthetic experience "is marked by focused intent to resolve an indeterminate situation and becomes aesthetic" when someone is "deeply invested in the effort" (Parrish, 2009, p.513). Eisner (2005) defines aesthetic experience as a mode of knowing in two ways – through aesthetic experiences that allow for vicarious participation in situations beyond practical possibilities and through knowledge of or the developed ability to experience the subtleties of the engagement in the activity. We have previously argued that the game aesthetic reveals the core learning concepts and provides complexities for deeper engagement in digital games (Gupta & Kim, 2014). By the game aesthetic, we refer to the ways that different genres of games guide player interactions and experiences with its design elements such as rules, geography and representation, number of players, and time (Egenfeldt-Nielsen, Smith & Tosca, 2013). In this paper, we delve into the *Minecraft* aesthetic as a specific game genre to establish how interactions with its design elements help

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create an aesthetic learning experience. Our analysis examines the process of students' finding design solutions for the problems they encounter as they proceed with their goals in *Minecraft*. *Minecraft* is an open sandbox-style game where the players are able to develop and showcase creativity (Nguyen, 2016) through experiments within the digital game environment. These creative experiments evolve out of the two key player activities within *Minecraft,* as in construction and survival. The interrelations and tensions between these two activities contribute to the play experience of *Minecraft* (Duncan, 2011). Researchers argue that learners identify and solve problems through critical thinking (Snyder & Snyder, 2008), but more specifically we suggest that learners engage in problem-solving through what Schön (1983) called "reflection-in-action" enabled by the *Minecraft* aesthetic. By interacting with the design elements of *Minecraft*, learners shape the problems through their perception, understanding and experience of the game, and then assess and act upon the problems both individually and collaboratively. Our research therefore examined: (1) how the learners interpret the problems contextually undergoing an aesthetic experience as they interact with Minecraft, and (2) how these interactions help them to engage in reflective practices and solve the problems. Our research was based in an arts immersion school in Canada where students started using *Minecraft* to achieve curricular outcomes in high school Social Studies.

AESTHETIC EXPERIENCE AND DIGITAL GAMES

Discussions around the term game aesthetics are mostly about the design concepts in connection with the mechanics and dynamics of game design (e.g. Aleven, Myers, Easterday & Ogan, 2010). Salen and Zimmerman (2004) used the term "aesthetic trappings" to clearly distinguish the visual design elements from game mechanics. Niendenthal (2009), on the other hand, emphasized how games are aesthetic, social and technological phenomena, and added three detailed perspectives to the game aesthetic as the ways that players experience (1) the visual, aural, haptic or embodied sensory phenomena in the game, (2) the forms that similarly emerge and shape as arts and (3) pleasure, emotion, form giving, sociability, and so forth (p. 2). On a similar note, Egenfeldt-Nielsen and colleagues' (2013) argued that the digital game aesthetic is not how a game sounds or looks but how all its characteristics contribute towards showcasing the experience of "how it plays" (p. 117). We agree with Egenfeldt-Nielsen and colleagues' (2013) contention and further argue that the experience of how a game plays is in itself an aesthetic experience that emerges through the interactions between the player and the game. Studies on the human-computer interactions have reiterated the pragmatics of human experience that arises through the interplay of user, context, culture and history and the relations between artifact and viewer, subject and object, user and tool (Wright, Wallace & McCarthy, 2008). This is based on the foundation that aesthetic experience is the lively integration of means and ends, meaning and movement involving sensory and intellectual faculties and each act or interaction relates meaningfully to the total action and is felt by the experiencer to have a unity or wholeness that is fulfilling (McCarthy & Wright, 2004).

In digital games, the rules, geography, representation, time and number of players as the design elements facilitate the players' experience of a game (Egenfeldt-Nielsen et al., 2013). Players interact with rules to have imaginary experiences within the fictional world of the game (Juul, 2011; Bateman, 2014) whereas geography and representation foreground the importance of aesthetic experiences of the play of games (Bateman, 2014). Play also works through the imaginative and cognitive faculties facilitating an aesthetic experience in digital games (Kirkpatrick, 2007). Hence, we propose that when players interact with the above design elements while playing, they may undergo an aesthetic experience.