Towards a Unified Theory of Play: A Case Study of Minecraft

James Hooper
Bond University
Gold Coast, Australia
jahooper@bond.edu.au

Penny de Byl
Bond University
Gold Coast, Australia
pdebyl@bond.edu.au

ABSTRACT
Researchers in the fields of game design, childhood development, learning, and movement studies discuss the concept of play. However, the term has been frequently redefined resulting in a divergent understanding of the concept. This paper presents a Unified Theory of Play that aims to provide a holistic examination of the domain that will enhance understanding of play by delivering a tripartite framework for critical analysis of a variety of computer games. Minecraft is presented herein as a case study analysis using the proposed framework.

Keywords
Play, Theory, Unified, Game, Minecraft.

INTRODUCTION
This research examines key theories of play including Lehmann & Witty (1927), Parten (1932), Huizinga (1949), Piaget (1951), Caillois (1961), Czikszentmihalyi (1975), Vygotsky (1978), Nachmanovitch (1990), Bartle (1996), Sutton-Smith (1997) and Brown & Vaughan (2009) to the end of producing a Unified Theory of Play that will enhance critical analysis of play in computer games by providing a holistic examination of the domain. This Unified Theory of Play consists of three logical divisions. The triad was developed from an analysis of the broad discussion of play in the literature. These divisions are cognitive, activity and attitude. Cognitive-based theories of play have the common themes of education, learning and development. For example, Parten's six types of social play that includes *unoccupied*, *onlooker*, *solitary*, *parallel*, *associative* and *cooperative play* (Parten, 1932). Activity-based theories extract characteristics from discussions on the act of play itself. For example, Huizinga's first definition of play describes it as a non-serious, free activity that "quite consciously" involves scenarios not present in "ordinary life" (Huizinga, 1949). Finally, attitude-based theories include the nature of play behaviours and play styles. For example, Bartle presents four player types that describe player behavior. These are *socializers*, *explorers*, *achievers* and *killers* (Bartle 1996).

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The Unified Theory of Play attempts to progress the current understanding of play, moving towards a robust definition that satisfies the ideology of Lehmann and Witty (1927), in which "[the] whole truth regarding play cannot be known until the whole truth regarding life itself is known". Since the times of Plato and Aristotle in Ancient Greece, scholars have explored the notion of play, a concept that is driven by instinct in animals as a means for learning, experimentation and imagination. From infancy, play offers opportunities to understand social rules, constructs and boundaries, as well as roles and responsibilities in a safe, non-impactful environment (Vygotsky, 1978). Play offers an outlet for imagination and experimentation. It is often a driving force behind inquisition and many of the discoveries that impact and improve our lives today (D'Angour, 2013). Multiple definitions for play have been presented, however to date no unified definition has been offered. The three logical divisions within the Unified Theory of Play represent subsets of 27 analogous characteristics from the literature. The coherence among these subdivisions reveals possible logical relationships that exist leading towards a methodical definition of play.

Examining the value of such a unified theory, *Minecraft*, the voxel-based sandbox game, is offered as a case study. The game allows players to interact and shape a limitless world to their liking using a variety of block types and components. It has emerged as a popular outlet for play and creative expression offering multiple modes of play, including: 'creative mode' where players are made invincible and are given an unlimited inventory of blocks; and 'adventure mode' where players must survive a variety of enemy types, and must work to gather resources. Although the virtual world may be simple in nature, and void of strict rules or structure, it is the epitome of play in which players create, destroy, and re-create with godlike revelry alluded to by Nachmanovitch (1990). A critical analysis of *Minecraft*, using the Unified Theory of Play framework, provides a deeper understanding of the true nature of play afforded by the game. For example, *Minecraft* is diverse in its opportunities for play, beyond its creator's original intention. This is evident in the multitude of avenues where the game has found application and success, including education (Brand, de Byl, Knight & Hooper, 2014), town planning (Brand & Kinash, 2013), and machinima (Lastowka, 2012).

Future studies will expand the Unified Theory of Play to include additional literature from the domain. This in turn will be applied to further ludological works, and will form the basis for future research into the nature of play, play characteristics and opportunities for play. Through a holistic analysis of the play potential within a game, further applications and uses can be extrapolated thus predicting further avenues for game success and player engagement.

BIO

James Hooper - James is a Scholar, Researcher and Academic in the field of video games and play. He is currently researching and exploring the concept of Limitless Play in video games; understanding the factors of play beyond the game. James is an experienced graphic designer, 3D artist and animator, game designer and software developer. He holds degrees in Multimedia and IT and is currently an Adjunct Teaching Fellow, Research Assistant and Research Student at Bond University.

Penny de Byl - Dr Penny de Byl is professor of interactive media and design at Bond University. Her research areas of expertise include games-based learning, gamification pedagogy and game development that have been published internationally in numerous journals and conference proceedings. She currently teaches 3D animation, procedural literacy and games design and development. Penny has published three books on game development including the acclaimed Holistic Game Development with Unity. Dr de Byl is co-owner of Aardbei Studios an indie mobile game development company focusing on the creation of educational games.

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