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# **Spontaneous Communities of Learning**

Cooperative Learning Ecosystems Surrounding Virtual Worlds

by

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## **Dedication**

For my Tallulah, the perfect little star that inspires me to care so much about stoking the fires inside people, encouraging them to explore who they really are, and affording them the opportunity to learn what it means to belong and make a difference in the world.

And thank you, President Barack and First Lady Michelle Obama, for making everything possible again.

## **Abstract**

This thesis is the culmination of a five year research project exploring online gamers and the cultures they engage with, both virtually in the many massively multiplayer games and virtual worlds online, and in the physical spaces they inhabit in various play spaces around the world. The primary research questions concerned social learning in such spaces, i.e. how do players learn from one another what they need to be successful, and what are the associated norms and practices for doing so? What sorts of peripheral skills are gained, and are they applicable to physical world contexts? Finally, what does participation in such spaces mean for individuals who may have lacked other mechanisms for social learning, and what impacts might such findings have on existing educational structures?

I anticipate that this thesis will generate as many questions as it will answer, and I hope, that as a snapshot of a gaming culture in time, will be looked upon as a monograph in the classic ethnographic tradition.

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## **Introduction:**

### **Virtual Worlds, Spontaneous Communities, and a Vision for the Future of Learning**

The approach of the 21st century has brought a chorus of pronouncements that "the information society" both requires and makes possible new forms of education.

We totally agree with this. But we do not agree that tardiness in translating these declarations into reality can be ascribed, as it often is, to such factors as the lack of money, technology, standards or teacher training. Obviously there is need for improvement in all of those areas. But the primary lack is something very different -- a shortage of bold, coherent, inspiring yet realistic visions of what education could be like 10 and 20 years from now.

What we mean by vision is not a blueprint but a compelling view of the "look and feel" of the future -- its needs, its opportunities and how we can prepare ourselves now to act on them. Vision allows us to look beyond the problems that beset us today, giving direction to our passage into the future. Even more important, vision energizes that passage by inspiring and guiding us into action.

- Seymour Papert and Gaston Caperton, The 91st annual National Governors' Association meeting held in St. Louis, Missouri in August of 1999.

## Background

When the Pong video game debuted in arcades in 1972, few would have predicted that this benign, two-dimensional Ping-Pong simulation would presage an incredible economic and social phenomenon, as well as one of the great controversies in media history. For me, this is very personal: Pong debuted just two years after my birth in 1969, and I played it endlessly for an entire summer when I was eleven or so. The year of my birth was also the year of our first moon walk and the year the Internet debuted as Arpanet (four nodes at four universities). This and my mother's addiction to *Star Trek* and her early adoption of Atari and Nintendo videogame consoles as well as some early Texas Instruments computers, guaranteed my status as one of the early digital natives, therefore making this thesis a very natural evolution of these interests.

It would have seemed ludicrous at the time, and remains so to some, to suggest that digital game environments might in fact constitute some of the most profound examples of 21<sup>st</sup> century participation, community, collaboration and learning, and that developing literacies in such spaces and others like them will constitute the most fundamental underpinnings of core capabilities that will profoundly affect how successful people become, both socially, professionally, and perhaps even beyond. As a gamer of twenty years or more, I find it extraordinary, but superficial characteristics of digital games, like violent themes and imagery, inspire much media attention and societal angst, distracting us from giving proper consideration to much larger and more interesting phenomena. This is most certainly at our peril as it encourages a set of opinions based on misinformation, societal angst and a broad tendency to want to misunderstand gaming, often without having experienced it oneself. We consider it a guilty pleasure of the highest order. What I find surprising is that we still insist on making this judgment, erroneous though they might be. Likewise, while well-intentioned people were railing against Gutenberg and his printing press, bemoaning the loss of oral history and fearing the ramifications of a literate population, what larger sweeping changes did they miss? Enabled by the

printing press, Martin Luther's reformation-era broadsheets evolved into our modern mass media, an occurrence that could have only been predicted by examining that innovation with a very open and imaginative mind. In most cases, the long view looks quite a bit different than the short one. Similarly, the view from the inside, as a member of a digital game community, differs drastically from the view from the outside of the community where a lack of socio-cultural literacy regarding the norms and fundamental spirit of game-based communities lead to much misinterpretation regarding what these games are fundamentally about. This thesis offers the less obvious perspective: what is really happening inside the communities that grow around digital games? What types of learning, both game-related and otherwise, take place therein, and what impact might that learning have on players' informal learning, on our formal educational structures, and indeed in the world on the whole? Whilst other researchers have examined these issues in recent years (Aarseth 2001; Gee 2003; Jakobsson and Taylor 2003; McGonigal 2003; Steinkuehler 2003; Barab, Kling et al. 2004; Gee 2004; Steinkuehler 2004; Castronova 2005; Steinkuehler 2005; Steinkuehler 2005; Shaffer 2006; Steinkuehler 2006; Taylor 2006; Consalvo 2007), I have attempted to provide a data set that demonstrates comprehensively that these communities have truly transformative effects on their members, and the desire to belong and contribute extends well beyond the basics of entertainment and into domains including participation, and even the extension of consciousness via deep interactions with gamers from around the world on an ongoing basis. It is truly remarkable that individuals from around the world, often barely sharing a language, spend more time interacting with members of an online MMO (massively multiplayer online) guild than they do co-workers in their real-life job, or fellow students in their high school or university environments. This is especially true of the generation referred to as Gen Y or Millennials (Tapscott 1998; Huntley 2006, et al). A massive amount of learning is occurring in digital game environments, and I shall argue that it is vital to consider the influence of such activity on the development of both various media literacies (Buckingham, 1997, Lealand, 2008, Lealand & Zanker, 2008, et al) and other 21st century skills, such as virtual team-work and collaboration (Galarneau & Zibit, 2007).

But let's get back to the basics of games for a moment. In the thirty-five years since Pong, digital games have been blamed for all manner of societal ills, from childhood obesity to horrific violence like the massacres at Columbine High School in Colorado, U.S.A and Virginia Tech University, also in the U.S.<sup>1</sup>. Just this week (February, 2009), a well-meaning British journalist's work was re-characterized by the British media, implying that virtual worlds make people lonely and sick<sup>2</sup>. Two psychiatrists, Jacqueline Olds and Richard S. Schwartz have even posited that we are in the midst of a loneliness epidemic (Olds and Schwartz 2009). Though a convenient scapegoat, I will argue that blaming problems with young people on videogames alone is profoundly irresponsible and prevents parents and teachers from immersing themselves in the real potential and yes, periodic problems in virtual spaces. A reflection of the sensationalizing and litigious legal system in the U.S., Jack Thompson is an attorney who represents families affected by these sorts of violent acts, has sought to place the blame squarely on digital games and the companies who develop and distribute them. However his argument against digital games is a correlative one so typical of media effects research: since the perpetrators of this violence played violent digital games, typically first-person shooter (FPS) games, in their past, then the games had to be a contributing factor (although all of these perpetrators had been previously treated for mental health disorders – it has even been suggested that the psychiatric treatment with a certain class of anti-depressants might have been to blame<sup>3</sup>). Of Michael Cho, the perpetrator of the shooting rampage at Virginia Tech, Thompson contends that while there were many elements that contributed to his propensity to violence, digital games played a particular role in allowing him to develop the skills necessary to actually carry out his violent act: 'He might have killed somebody but he wouldn't have killed 32 if he

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<sup>1</sup> MSNBC - <http://www.msnbc.msn.com/id/18220228/>

<sup>2</sup> <http://www.telegraph.co.uk/health/healthnews/4688338/Britons-health-at-risk-from-time-spent-in-virtual-worlds-says-Dr-Aric-Sigman.html>

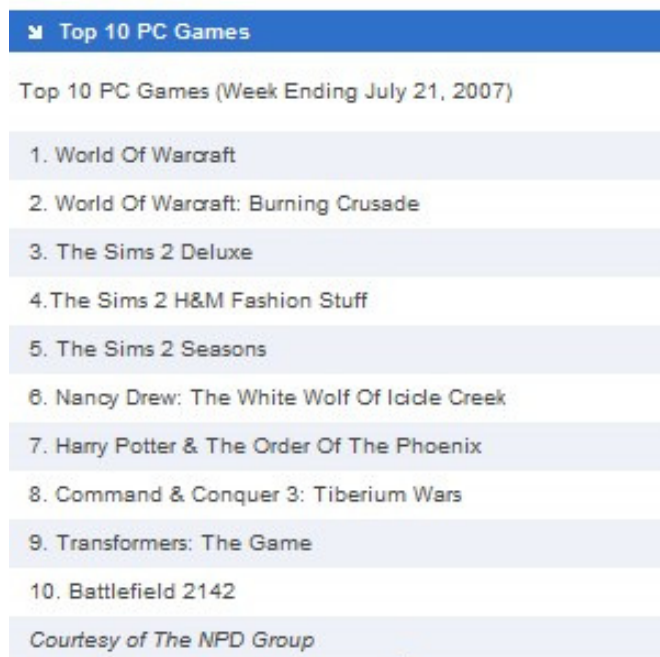
<sup>3</sup> <http://www.happinessonline.org/BeTemperate/p1.htm>

hadn't rehearsed it and trained himself like a warrior on virtual reality. It can't be done. It just doesn't happen' (Benedetti, 2007). I will discuss this in greater detail later in this thesis, but player skill and violence literacy is certainly an unsettling facet of these unfolding new worlds. Games like *Eve Online* and *Counterstrike* are not the same comfortable and warm environments as *City of Heroes* and even *City of Villains*. Yet there is a profound sense of community in all of these worlds, even when the game-play is more factional in nature, as it is in the Icelandic developed *Eve Online*. As in many typical sports games, players band together to play against one another, rather than playing against the computer as in more explicitly PvE (player versus environment) games. As one would expect, bad behaviour certainly occurs. Racial and sexual epithets are thrown around casually. Players are not typically singled for harassment (though 'ganking' a player repeatedly can be considered fun), but environments certainly emerge that are not warm and friendly. This is where it becomes clear that each of the games, game servers, factions, guilds, etc., are cultures in their own right, replete with community leaders, norms, sense making mechanisms, and other symbols of culture that illuminate what is going on in the deepest corners of the games. Some of it is chillingly ugly, there is no question, but there is a context here for very serious play that can lead to very deep learning about the nuances of digital interactions in complex game spaces. For every less than nurturing space there are ten that represent profound examples of positive human connection and community. The problem is that our focus has gravitated to the outliers.

For instance, parents and educators are not really leaping to consider what real-world skills kids and adults are developing as they play in complex game spaces online. The focus among those concerned with the well-being of children is squarely directed on violent play, not on the collaborative and transformative skills being developed through the course of that play. Other very serious concerns revolve around desensitization (North, North, & Coble, 1998; Van Egeren, Feather, & Hein, 1971), a psychological process that is frequently leveraged therapeutically to help those who have phobias or other disorders overcome them via repeated exposure to the thing that generates fear. It is controversially argued that such desensitization

may also occur on a de facto basis through exposure to media violence (Cantor, 2000; Rule & Ferguson, 1986; Smith & Donnerstein, 1998), and is exacerbated by media violence of an interactive nature. The controversy stems from the fact that most of the studies take a very short-term view and focus on physiological markers that may distort the overall findings. Even those who take the point of view that games are harmless play find it difficult to rationalize the pervasive use of violence as a cornerstone of the gaming experience. If one takes chess as an example, then games have not actually become any more violent; the technology has simply evolved to allow much more graphic depictions of violence. Still, it is a common perception that violent first-person shooter type games dominate, and while that has been true in the past (primarily when those games were new, technological advanced, and the game genre du jour), closer examination reveals that the most popular games exemplify a range of play styles and motivations, most of which if violent at all, are only peripherally so:

Figure 1: Top ten list of PC Games



Of the top ten games for the week of July 21<sup>st</sup>, 2007 (Figure 1), three were simulations from the popular and long-running Sims series, a virtual equivalent of

Victorian dollhouses (Martey & Stromer-Galley, 2007). Three of the games are extensions of well-known children's franchises: *Nancy Drew*, *Harry Potter* and the *Transformers*. Two additional titles, *Battlefield 2142* and *Command & Conquer 3*, are battle simulators, and while violent in nature, they are militaristic in nature, and essentially the 21<sup>st</sup> century equivalent of the game of chess, which itself evolved from ancient Middle Eastern battlefield simulations <sup>4</sup>, but is considered a high-brow and skill-building game. The last two games in the list are *World of Warcraft* and its expansion, *World of Warcraft: Burning Crusade*, both massively multiplayer games that have inspired profound examples of online community, well beyond the wildest imaginings of both its developers and the gamers and observers within the MMO community.

One interesting point is that many games are not superficially violent at all, but there have been a few examples of players pushing the parameters of even the most apparently benign games and committing such abuses as griefing (deliberately disrupting the play of other players) or even such sadistic behaviour as the torture of inanimate characters like *Sims* <sup>5</sup>. The larger point here is that games are open-ended systems that allow players a wide range of play choices (Aarseth 2001; Calleja 2007; Malaby 2007): a violent game can be played quite peacefully <sup>6</sup>, whereas a game that appears to be quite non-violent can leveraged in a quite violent way. This is akin to the game of baseball in the physical world: it is a game that is played with an implement (a bat) that can be used violently, however that is not how the game is meant to be played, and playing outside of the rules in such a way would be considered profoundly deviant. This is particularly relevant to many emerging virtual environments that allow for increasingly social digital game play. Research

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<sup>4</sup> The Persian word from chess refers to the four divisions of the military: infantry, cavalry, elephants and chariots.

<http://en.wikipedia.org/wiki/Chess>

<sup>5</sup> Sims Abuse: <http://monkeyfilter.com/link.php/5093>

<sup>6</sup> There are even examples where players have railed against norms and played games like *World of Warcraft* peacefully: <http://forums.worldofwarcraft.com/thread.html?topicId=8557152412&sid=1>



on local area network (LAN) parties where players get together in physical space to play violent, and even competitively violent games, often for days at a time in confined spaces, has shown that accompanying violence in physical space is the exception: more frequently these spaces are characterized by camaraderie, cooperation and team-work, phenomena that are belied by the violent nature of the games being played, and even the vitriolic nature of the playful banter that sometimes accompanies them (Jansz & Martens, 2005; Swalwell, 2003, Chen 2008).

It is clear that digital game play is not a phenomenon that can be examined superficially, nor can it be removed from the context in which it occurs. Particularly as technological advances allow game environments to continue to evolve, it becomes imperative to peel back the layers through research into the complexities of game play and game communities. Examination of communities of players and the cultures that emerge from them (unique to each game, and often unique to each server upon which the game is played) rather than the games themselves, or even some individual responses to them, allow a certain degree of generalisability beyond discrete text-based assumptions or artificial assumptions that arise from controlled studies in lab environments. While it is often interesting and sensational to focus on the outliers, the socio-paths who have played games and then taken those experiences into the real world in bizarre extensions of asocial play as well as, the players who take any behaviour to an extreme and misuse digital games as they would any drug, it is more accurate to look at broader trends accompanying digital game cultures and the more mainstream players, especially as we approach a time when the vast majority of people in the workforce will have played games at some point in their lives.

Typically dismissed as a waste of time at best, it is not well accepted that digital games offer opportunities for exploration and play that may be missing from other aspects of players' lives (Galarneau 2004; Castronova 2005; Galarneau 2005; Steinkuehler and Williams 2006; Galarneau and Zibit 2007). In fact, mainstream media is rife with depictions of digital games as a medium to be despised. As recently as 2006, Vancouver-based radio personality Pia Shandel insisted on her

early morning radio show that gaming has little merit: Gaming is ‘a waste of time for boys, like 40-year old men wearing golfing pants.’<sup>7</sup> Often these ‘expert’ opinions are the only perspectives that parents receive, substantiating and even magnifying their own, seemingly intuitive, misgivings about digital games. This is not only irresponsible reporting, as these perspectives are seldom backed up by facts, or are a misrepresentation of facts taken out of context, but it casts a negative light on digital games that is counter-productive within the larger imperative of cultivating media literacy across a variety of interactive platforms. Focusing on the negative aspects of digital games precludes for many the need to also examine potentially positive aspects of digital game play. As such, it is relatively uncommon for mainstream media to move beyond shallow depictions of play and their alleged effects, and when they do acknowledge some benefit to game play, it is usually only to reference studies that focus on improved manual dexterity or hand-eye coordination as the result of intricate movements (e.g. Egenfeldt-Nielsen, 2003; Griffith, Voloschin, Gibb, & Bailey, 1983; Mamei & Zambonelli, 2004; Rosenberg, Landsittel, & Averch, 2005, Rosser Jr, Lynch et al. 2007). Yet recent psychological research on motivation and emotion suggests that the allure and impact of digital game play is much deeper than is generally acknowledged:

We find that people who are really drawn to video games stay there because it satisfies some very basic psychological needs. Certain games provide opportunities to feel a sense of achievement, freedom and even connection with other players (Ryan, 2007).

Even well-meaning child psychologists lack information critical to making a measured decision about the value, or not, of digital game play, and this study is focused on documenting the sense of achievement, freedom and connection to other players noted by scholars like Ryan (2007). While there has been much anecdotal discussion, my ethnography was a systematic review of a community of 1 million

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<sup>7</sup> Reported by professional gamer FATAL1TY at Kotaku.com: <http://kotaku.com/gaming/fatal1ty/gaming-is-a-waste-of-time-says-radio-personality-150506.php>

online game players over a four year period, with focused attention on nearly 10,000 players who completed my survey, as well as a handful of players with whom I had deep interactions over significant periods of time. What I found is that game play afforded participants with a deep and immersive community experience, not in keeping with the perceptions of scholars who have limited exposure to online games:

When asked by one mother 'how her children will learn trust, empathy and social skills when their most frequent playing is done online', play advocate Stuart Brown, president of the National Institute for Play, told her 'that while video games do have some play value, a true sense of "interpersonal nuance" can be achieved only by a child who is engaging all five senses by playing in the three-dimensional world' (Henig, 2008).

I would argue that this opinion is based on a rather limited view of interactions in virtual world spaces, and a lack of insight into the specific benefits of play in achieving key media literacies critical to life in the 21<sup>st</sup> century. In this sense, virtual world communities are of particular interest in any discussion of the impact of new media and the communities that have arisen around them. The 'stickiness', or ongoing appeal, of these experiences provides a vehicle for emotional engagement that has profound social and learning implications. There is also an ideology emerging around new media, as defined by Lister et al (2003) with their forays into the nuances of interactivity and the possibilities of a world populated with cyborgs, cybernetics and cyber culture. These co-creations present a whole set of questions and concerns, and while it might appear hyperbolic to focus on the pro-social, these are necessary perspectives that must be developed in order to provide a means for balancing other perspectives. Digital games are an area of complexity that must be approached with a holistic understanding of both positive and negative implications of play. Instead too many adults opt to disengage and dismiss this important phenomenon in millions of people's lives as mere frivolity, blaming games for a lack of interest in other activities, and generally refusing to consider the simple question, what are people getting out of those experiences and why are they so compelling?

Beyond that, what if we lived in a world that encouraged people to be just as passionate about things we deem productive?

### **This Study**

This research project is comprised primarily of a body of ethnographic research conducted over an almost four year period (from May 2004 – February 2008) that seeks to illuminate the informal learning ecosystems that emerge around the relatively recent phenomenon of massively multiplayer online games. While these games can be played individually to greater or lesser degrees depending on the game, the game play mechanics are generally such that true mastery of the game can often only be achieved by working collaboratively with other players. As a result, groups of players comprised of individuals from around the world emerge in an entirely decentralised and self-organised way, engaging in group pursuits and assisting each other to learn how the game world functions, or even co-producing the game world in a negotiated dance with developers. As mentioned earlier in this introduction, this group emergence follows the classic rules of emergence in biological systems. In particular, this project looks at how otherwise unconnected individuals coalesce into a complex learning ecosystem around two games, *City of Heroes* and its successor *City of Villains*, as players engage in symbiotic learning relationships, assisting each other towards greater mastery of the game.

Individuals also interact with one another outside the game, using it as the cornerstone of a rich web of ‘meta- game’ social and learning interactions, extending the web of community into different virtual spaces and even real life, then back again. Not only do individual players benefit from these interactions; both play groups and the larger community of the game itself gain a greater intelligence that results in increased sophistication of the game environment. There are obvious analogues between this phenomenon and social learning patterns in other physical and virtual spaces. But massively multiplayer online games (MMOGs), in particular, present a tremendous opportunity to explore a nascent

area of media convergence, while understanding how the naturally occurring phenomena of self-motivated social learning, socio-cultural participation, and collaborative problem-solving can be leveraged into other contexts. That is the focus of this thesis, an effort that follows closely behind the work of various other pioneering MMO scholars. Constance Steinkuehler of the University of Wisconsin-Madison stresses the importance of this type of research in the larger context of educational and learning research:

As Lave and Wenger argue, understanding the shape of learning in naturally occurring contexts, and not just formal ones (e.g. classrooms) is crucial if we are to forward educational theory and practice beyond the contexts we ourselves contrive. We ought to investigate more naturally occurring, self-sustaining indigenous virtual cultures so that our theory might be a more accurate reflection of them and our practice a better reflection on them in days to come (Steinkuehler, 2004a).

This study seeks to understand how self-organised and spontaneous teaching and learning contribute to mastery of a game environment, the pinnacle of achievement that denotes a holistic set of capabilities, or a player's 'ability to improvise' and 'time actions relative to changing circumstances' (Hanks, 1991). Mastery, in this sense, is an individual, group, and community-level achievement. Individual mastery leads to greater play/work group mastery, which in turn leads to greater organisational or community mastery. The epitome of mastery in a massively multiplayer game environment is the evolution of the game space, when the game has been sufficiently mastered such that its continued existence hinges on its increasing sophistication and allure, often satisfied as a result of player intervention and contribution. Evolutionary markers presented themselves very strongly in this study, even though many participants claimed that they felt 'it was just a game'. There are various levels of experience and belief regarding the development of skills necessary to success in the game. But despite what some individuals might believe now about these experiences, it is precisely this level of contribution and co-creation that is the hallmark of various emerging participatory

cultures, a factor that is of great importance when considering the possibility of games for learning.

Visionaries like John Seely-Brown have repeatedly called our attention to the changing needs of a digital world, acknowledging a 'shift between using technology to support the individual to using technology to support relationships between individuals'. This web of interactions is what he calls a 'learning ecology', an 'open, complex, adaptive system comprising elements that are dynamic and interdependent' (Seely Brown, 2000). Yet most educational research tends to ignore the study of these phenomena in deference to accepted content and cognitive skills, or a focus on structured and individualistic educational settings in an effort to understand what is working according to current modes of accountability. Unfortunately, these approaches will not provide the wake-up call needed to shift our educational structures away from an emphasis on content in individual heads to a focus on developing skills that highlight identifying and scrutinizing resources across the network and developing fluency in the socio-cultural practices that allow individuals to access the greater collective intelligence.

Furthermore, there is the question that troubled the likes of educators and philosophers like Plato, Dewey and Paulo Freire throughout history: in the philosophy of education, what role can learning play in creating a better world? Hyperbole aside, is it possible that virtual worlds might reflect, or just hint at, what might be possible? In *The Evolution of Cooperation*, Robert Axelrod suggests that civilization is based on cooperation yet our habits of cooperation have tended to be obviated by centralised institutions that do that work for us. He suggests that studying 'individuals who pursue their own self-interest without the aid of central authority to force them to cooperate with each other' might help illuminate the motivations to cooperate that exist outside of altruism or 'the welfare of the group as a whole' (Axelrod, 1997, p. 6). Edward Castronova (2006) has referred to the idea of virtual worlds as 'sanctuary': spaces that allow people to experiment with states of being, such as altruism, that are unsafe or impractical in the physical world.

Fundamentally, however, I think the tremendous appeal of these environments lies in the fact that they are for many the first or most intense opportunities that people have to learn what it means to contribute, participate and belong. They are a sanctuary in the sense that they represent a safe space to play with who one is, and to discover which permutations fit the best.

Learning theorists like Vygotsky, Bandura, Lave, Wenger and Siemens have all understood that learning cannot be separated from its context. Likewise, the study of learning cannot be separated from its context. Studying learning in artificially-structured environments like schools or training establishments will yield artificial results. Only by examining social learning in an environment where it occurs naturally through spontaneous self-organisation of participants into learning ecosystems will we gain insight into its true possibilities within an educational framework. It is also the only way we can understand what the important skills and capabilities really are in a networked, complex and fast-moving world, in absence of specific content agendas and 'what learners need to know' attitudes based on centuries of tradition. We may in fact find that traditional content approaches to learning may take a back-seat to the sorts of 'collateral learning' (S. Johnson, 2005) taking place in massively multiplayer game environments, in which players are routinely 'given hundreds of chances to work together in a structured setting' (John C. Beck & Mitchell Wade, 2004). The game is merely the productive activity around which other skills and capabilities flourish. One way to look at it is that players self-organise into communities of practice united around the activity of game play, yet this self-organisation results in the development of a range of capabilities towards which the players are not directly striving, but are fundamental to mastery within the environment:

Players acquire knowledge in context and in pursuit of immediate goals.

Learning is done in the service of game goals... players have to figure out everything they need to know to feed themselves, stay safe, rise in experience, acquire the items they covet, and navigate the world around them. But, in this game, they do it by picking up some knowledge that

actually has some use in the real world. The game's design is not meant to trick people into learning. It's meant to give players the tools they need to succeed in the virtual world, but tools that might be useful in the real world, as well (Kelly, 2004).

What, then, does current activity in virtual worlds mean for the future of learning, both formally and informally? As Shakespeare said, if the seeds of our future are in our present, which of them are likely to grow? The momentum behind participation in virtual worlds is very strong. A fuller understanding of the opportunities and limitations inherent in the environments will most certainly yield more considered approaches to fostering learning and community in a range of settings, as well as understanding associated skills and capabilities: 'such characteristics mark MMOGs (massively multiplayer online games) as learning environments, albeit naturally occurring, self-sustaining, indigenous ones dedicated to play rather than work or school' (Steinkuehler, 2005b). It is with this in mind that I seek to balance the discussions with a research project that illuminates the experiences of several thousand gamers, as well as a host of academics, developers, fan site moderators, educators, families, and other perspectives that paint a more optimistic picture of the future of gaming and play than we are typically allowed to consider.

As such, this study sought to explore the following questions:

- How players self-organise into temporary and more permanent groupings and assist each other in learning the intricacies of a world.
- How players contribute to the world and meta-world environment, and how developers/publishers respond to these contributions.
- How socio-cultural literacy develops in the context of a world, and how the worlds develop and regulate unique cultures and values.
- What a successful group looks like in terms of etiquette, roles and social norms.
- How skills developed in virtual worlds might be leveraged into real-life contexts.



- What implications virtual worlds suggest for learning programmes in business and educational settings.
- What, if any, are the possibilities for transfer, transformation and indeed, greater social good?

The unique contribution of the study covered methodological, theoretical and practical terrain:

- I developed field and online methodologies specific to my research questions, and involved myself significantly in a community of practice (and affinity space) that have benefited from my experiences
- I have contributed data from a brand new sample of 10,000 gamers, a monograph or snapshot of a dynamic affinity space with a specifically strong culture and new media literacy development trajectory.
- My study is largely qualitative, but also includes quantitative aspects, and the data set is large enough to be shared and analysed for years to come
- One of the major goals of the study was to provide tangible evidence of concepts currently in circulation, like those explored by Jenkins, Gee, Steinkuehler, Squire, et al. I believe I have achieved this goal beyond expectations. The world I have documented is a profound example of spontaneous community, and there are myriad examples of the various new media literacies in practice.
- I believe that I have succeeded in combining a comprehensive literature review that deconstructs how we have arrived at this juncture in space and time, and how ideas past and present meld with the practical experiences outlined in this thesis.
- I have attempted to offer some thoughts on how our present moments in time might converge into our increasingly digital future, and how we might prepare ourselves for the onslaught of a digitally native generation

## **This document**

This document is arranged such that the reader is exposed to a great deal of background information about digital games, learning theory, educational psychology, play and the history of educational endeavours prior to being exposed to the core findings from the study. This was the result of a simultaneous writing and literature review process, as well as the manner in which the research was conducted, including a significant context-defining period prior to conducting the core survey and player interviews. Chapters 1-3 concern themselves with background and context, chapter 4 is an explanation of methodologies considered and used, and chapters 5-8 outline the findings and associated phenomena. Finally, I wrap up the endeavour in a short concluding chapter, with a few notes about how this research might be utilised to shape a more progressive and relevant educational system worldwide.

## **A NOTE ABOUT TERMINOLOGY AND FORMATTING**

The nature of human language is that it allows us to communicate via a system of symbols that carry shared meanings. However, there are cases when the full context behind my intent in choosing a particular word or phrase might not be clear unless I make it explicit. For instance, I deliberately separate the use of the terms learning and education, as well as learner and student, for reasons that may be apparent, but primarily coincide with my belief that learning often occurs outside of educational systems and likewise, attempts at education often occurs without real learning. In addition, I seldom use 'real world' as an antonym for 'virtual world'. I believe that both physical and virtual environments can be equally 'real' in terms of the experience they provide; one simply occurs in a space that we take for granted as real, our physical reality, while other activities take place in spaces we call virtual. Even a phone conversation is virtual, as it takes place in a disembodied space occupied only by our voices, yet few would suggest there was anything unreal about the conversations that take place therein. As Edward Castronova has so accurately noted, these distinctions may soon be irrelevant anyway as 'the allegedly virtual is blending so smoothly into the allegedly "real" as to make the distinction increasingly difficult to see' (Castronova, 2005, p. 148).

Similarly, I am quite deliberate about my use of the terms virtual world, MMO, MMOG, etc. for many of the reasons outlined above. When I use the term MMOG, I am referring very explicitly to the sub-category of virtual world that contains game elements. Following the convention as succinctly outlined by Gordon Calleja (Calleja 2007) in his doctoral thesis, I have chosen to use the term 'digital game' rather than privileging one hardware platform over the other through the use of terms like 'video' or 'computer' games. In many cases I refer to 'virtual worlds', a category of

interactive media that is significantly open and a platform for experimentation around market economies, social networking, creativity, entrepreneurship, and more. Please see the Glossary for further explanations of the specific terms peppered throughout this document.

In addition, because this thesis includes qualitative data from a survey of almost 10,000 gamers, in addition to transcribed passages from several dozen interviews, I have opted to correct and clarify spelling and terminology in some cases in order to improve understanding. In some cases I have opted to keep 'leet' spellings, but when a participant uses a term or phrase that I think might be unfamiliar, a clarification will appear in brackets, and the term will also be included in the Glossary. It is my hope that these interventions do not detract from the intended meaning of the passages, but instead allow greater accessibility for those readers who may not be as intimately familiar with this area of study.

## Chapter 1

### 1.1 Learning in the 21st Century

Consider the way a child learns language, the speed at which a person can unconsciously adapt to the social and practical intricacies of a new work situation, or the way in which over a billion Internet users<sup>8</sup> have mastered and contributed to the evolution of a brand new, non-physical environment over the last decade or so. Learning most often and most powerfully happens spontaneously as the result of the drive to develop and achieve competence in the world; it is the critical component of the adaptability to various environmental circumstances that has been integral to the success of our species and its predecessors. In fact, one could even say that learning is addictive. We are born to learn and experience unique thrills when we do, a mechanism supported by various neuro-chemical reward responses (e.g. Berridge & Robinson, 1998; Holroyd & Coles, 2002; Waelti, Dickinson, & Schultz, 2001), as well as somewhat less tangible pleasures like the sensation of flow that accompanies a successful challenge and learning endeavour (Csíkszentmihályi, 1996).

Furthermore, an individual's learning surely contributes to the value and learning of the groups to which that individual belongs, and when mastery of a new environment is undertaken as a cooperative effort, the collective learning that ensues enables huge leaps in the group's ability to impact those environments. For example, consider what happened when Internet users leveraged the new collaborative technology dubbed 'wiki' (from the Hawaiian word for 'quick'<sup>9</sup>) into a

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<sup>8</sup> <http://www.internetworldstats.com/stats.htm>

<sup>9</sup> <http://c2.com/doc/etymology.html>

million permutations, including the wildly successful online encyclopedia, *Wikipedia* (with a million entries and several dozen versions) built entirely by the Internet community, overseen by a mere five formal employees.

In general, the evolution of the graphical World Wide Web (WWW) over these last 15 or so years demonstrates this principle in action: what began as a hodgepodge of simplistic HTML pages on a handful of University servers has now morphed into a global phenomenon with unprecedented commercial, government and entertainment ramifications. This progress, in such a short time, must be attributed to the efforts of a billion people spinning an ever more complex Web that now almost seems to have an intelligence of its own (Levy, 1997). Combined with the social impetus to build upon this collective creation, such examples are powerful illustrations of what a distributed community is capable of, however such examples may be useful to illustrate communication and not always a useful conveyer of 'epistemologically significant information' (Graham, 1999). Learning to sort through the wheat and the chaff are a critical part of these endeavours and require the development of literacies well beyond reading, writing and arithmetic.

I trust *Wikipedia*, for instance, but that is because I know there is a community of editors that are keenly attuned to what content needs to be developed and tweaked, and are prepared to do so in real time. However, there are corners of specialized information that may not get the attention it needs and is therefore suspect. Knowing what is trust-worthy and what is not is a huge part of this emerging equation. And as such, my brain is arguably in a state of evolution, adapting to new environmental parameters and stressors, and undergoing a process of natural selection that turns it into a powerful learning and discriminating (towards information and media) machine.

There are many perspectives that can be brought to bear on the issues and opportunities observed in emerging digital spaces. Such spaces take many forms, from formal online learning environments like *Blackboard* and *WebCT* to informal 'Web 2.0' that promote user-generated content like *Flickr* (online photos), *Twitter* (micro-blogging), *MySpace* and *Facebook* (social networking), *Dopplr* (geographic

location service), the aforementioned *Wikipedia*, and many others. As a result of enabling a wide range of human activity, from the lucrative to the mundane, it has become clear that these phenomena cannot be adequately studied within the confines of any one academic discipline. O'Reilly and Woolgar both take integrated approaches to their assessments of the Web 2.0 phenomena, for instance. The 'learning sciences', for example, are an emerging interdisciplinary approach to researching and capitalising on the human capacity for learning, with a particular interest in digital spaces, welcoming contributions from such previously disparate areas as education, psychology, computer science, neuroscience, social science and cognitive science – all areas which contain perspectives on the nature of learning, from the physiological mechanics to the social and cultural contexts in which learning occurs most readily.

Combining perspectives from such an array of previously discrete disciplines demonstrates a consilience that could be criticised as reductionist. I believe, however, that such approaches offer an opportunity to filter noise from various disciplines attempting to describe facets of the same phenomenon, while simultaneously encouraging interdisciplinary and cross-sector scholars like myself to consider their research from a variety of angles. My own background includes academic work in socio-cultural anthropology (B.A), education with an emphasis in online teaching and learning (M.Sc.), and screen and media studies (this doctorate), as well as a professional career spanning network administration, web development, information architecture, online community management, digital games research and development, the music industry, and market research. As someone introduced early on to digital games (I played Pong when it first came out and my mother had one of the first Nintendo consoles, which ironically, she seldom let me play) and digital culture, my position as a participant observer of these phenomena is a deeply involved one, stretching well beyond my interest in this research project and going back many years. In addition, my practical experiences and point-of-view are illuminated and substantiated by an enormous body of work in the various social sciences (Axelrod, 1997; Bimber, 1990; Caillois, 1958; Huizinga, 1950; Skinner, 1976; Spinka, Newberry, & Bekoff, 2001; Surowiecki, 2004; Sutton-Smith, 1997, 2004),

learning theory and education (e.g. Alfred Bandura, 1977; Dewey, 1916; Laszlo, 2001; Mayer, 2001; Mayer & Chandler, 2001; Mezirow, 1991, 1997; Papert, 2002; Jean Piaget, 1969/1970; J. Piaget, 2003; C. Rogers, 1994; Y. Rogers & Ellis, 1994; Rogoff, 1991; Rogoff, Matusov, & White, 1998; R. Schank, 2001; L.S. Vygotsky, 1978; L. S. Vygotsky, 1986), media and game studies (e.g. (McGonigal 2003; Lastowka and Hunter 2004; Malaby 2007), Barab, Barnett, & Squire, 2002; Barab et al., 1999; Barab, Hay, Barnett, & Squire, 2001; Barab, Kling, & Gray, 2004; Buckingham, 1993; Jakobsson & Taylor, 2003; Schott & Kambouri, 2003; Sotamaa, 2004; Squire, 2001, 2003, 2005; Steinkuehler, 2003, 2004a, 2005a, 2005b, 2006; Sutton-Smith, 2004; Swalwell, 2003; Taylor, 2006; Thomas, 2005), computer science and network theory (e.g. J. A. Anderson & Rosenfeld, 1988; Anthony & Bartlett, 1999; Barabási & Crandall, 2003; Gallant, 1993; O'Reilly, Braver, & Cohen, 1999; Ripley, 1996), and to some extent, the biological and physical sciences (Capra 1984), Keller, 1983; Klee, 1984; Pink, 2005a, 2005b; Quartz, 1993; Restak, 2003; Ripley, 1996; Shaw, 2001) .

I also made a point of engaging with a significant amount of literature that addresses a more contrarian view than my admittedly technophilial one: that modern computing and communication technologies are not any sort of panacea to our existing problems, and may in fact be distracting us from more significant issues (e.g. Berry, 1990; Healy, 1999; Kline, 2002; Oppenheimer, 1997, 2003; Postman, 1986; Siegel, 2008; C. Stoll, 1999). This is certainly an area that I believe must be approached sensitively. For while I am a believer in the good that can come from the thoughtful use of technology, I am also aware that we must be vigilant, lest we lose the motivation to continuously learn what works and what does not:

Anyone who thinks that technological innovation is bad in and of itself is an unimaginative crank. (I would rather go live on Pluto than return to the days of the phone booth and the desperate search for change.) But anyone who denies that technology has the potential to damage us if it is not put to good use is either cunning or naïve. In the case of the Internet, the question is whether we let this remarkably promising opportunity, which as we'll see, has until now largely been developed in service to commerce and capital –



shape us to its needs or put it in the service of our own. Do we keep acquiescing in the myopic glibness and carelessness that characterize how so many of us are using the Internet? Do we keep surrendering to the highly purposeful way vested interests are foisting it upon us? (Siegel, 2008, Kindle locations 205-212)

In this regard I have emerged as a moderate, though I still believe that we should look for the silver lining in all things, despite our internal protestations that it must certainly be better for kids to play outside together, rather than whiling their time away inside with hands seemingly permanently attached to video game controllers. As a result of my passion for balancing perceptions of these phenomena, this thesis takes a largely pro-social view well beyond protestations of what might have been lost in our transition from an analogue to a digital culture (Monavich, 1998). I have certainly encountered some criticism from the academic community for this approach.

This thesis takes a pro-social stance, however, and represents an interest in what has been gained as a result of this evolution, and in the specific possibility that we are building capacity to develop and leverage skills of ongoing and spontaneous collective learning and collaboration via our interactions in virtual environments, skills that may be applicable to life well outside of digital domains. Virtual world and digital game environments, in particular, while often vilified as the latest in a long string of new media whose full character is as yet undiscovered and might yet be unsavoury, represent some of the most exciting examples of cooperation and collective learning seen online to date. Furthermore, these communities, whose membership is highly self-selecting, are quite accessible to the motivated participant observer, and the richness of the peripheral, game-related activities can be transparent to anyone with a Web browser and the inclination to browse the tens of thousands of forum posts, FAQs (frequently asked questions), and strategy guides that reside in web-based 'meta-games' that surround games played on both PCs and consoles, and serve as artefacts of the collective intelligence residing both within and outside the games.

Because of our increasing acknowledgment of their social nature, even in single player contexts (e.g. Schott & Kambouri, 2003; Taylor, 2006), the appeal of digital games cannot be limited to simple definitions, nor by looking at games simply as discrete texts. Instead, they must be studied in situ, taking into account a range of factors and contexts, including the pleasures of learning, production, participation, and community. Likewise, games can benefit from bringing a range of perspectives to bear on them, whilst simultaneously building an academic discipline that is unique to the medium:

Of course, games should also be studied within existing fields and departments, such as Media Studies, Sociology, and English, to name a few. But games are too important to be left to these fields. (And they did have thirty years in which they did nothing!) Like architecture, which contains but cannot be reduced to art history, game studies should contain media studies, aesthetics, sociology etc. But it should exist as an independent academic structure, because it cannot be reduced to any of the above (Aarseth, 2001).

While important, disciplinary approaches still quite often bring an emic sensibility to the subject at hand, as the discipline becomes the lens through which all is viewed and interpreted. The ethnographer seeks out typical habitats in order to study phenomena relatively free of the biases that come from asking people to behave naturally in artificial settings (Fetterman, 1998, Hammersley & Atkinson, 1995), and in doing so also attempts to bring an etic approach to the culture he or she observes.

Although undoubtedly an unavoidable modification of the environment to some extent, the process of participant observation allows the researcher both deeper and broader understanding through his or her role as a member of the community in question. In this case, like many other game researchers I am a player first and a researcher second (Steinkuehler, 2004b, Copier 2003, Hills 2002, McKee & Porter, 2008, et al), adding further weight to my role as participant observer. Previous ethnographers studied indigenous people in their home habitats. The intention of this study is to increase understanding of emerging cultures that demonstrate new needs, capacities and motivations made explicit via the affordances of new

technologies and the communication, interaction and cognitive strategies that evolve from them.

The speed of adoption of the Internet and its associated applications, especially amongst younger generations, has uncovered the richness and necessity of digital literacy in emerging spaces made possible by the proliferation of Internet technologies and the World Wide Web (WWW). This is of such critical importance that organizations like the McArthur Foundation and the Massachusetts Institute of Technology (MIT) are investing significant amounts of money to understand and promote new media literacy<sup>10</sup>. The areas they consider critical to literacy are play, performance, simulation, appropriation (sampling and remixing media content), multi-tasking, distributed cognition, collective intelligence, judgment, transmedia navigation (following stories across multiple modalities), networking (of a social nature), and negotiation. One of their most significant points is that new technologies require a shift away from the development of skills that support individual endeavour to skills that promote working within groups, particularly at a distance and mediated by emerging Internet-based technologies. It is, in fact, emerging as a significant point of discussion that game-play might be critical to the development of cognitive abilities that will enable learners to develop dynamic approaches to domains of learning. David Buckingham (Buckingham 1993; Buckingham and Sefton-Green 1997; Buckingham, Harvey et al. 1999) , among other scholars, has addressed the issue of media literacy (and associated 'moral panics') and done considerable work to understand how learning to be critical, and developing competency that goes well beyond the functional, have become aspects of 21st century media culture that we have come to take for granted, even though we arguably understand it to a an extremely limited degree. The experience of gamers in their own worlds cannot be explained in mere words. There is such a significant set of experiences, both individual and group based, that even beginning to understand what the experience of game play means to the development of a

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<sup>10 10</sup> <http://www.projectnml.org/files/working/NMLWhitePaper.pdf>

human brain and its attachment to a community of players requires a deep immersion in a community, as a gamer primarily and a researcher secondarily. It is one's own awareness and documentation of the process of developing such literacies that allows a scholar to continue to evolve his or her thinking. Interestingly, the experience of the formal scholar is not so different from the experience of the gamer; the difference is in the propensity to discuss and document experiences and challenge misunderstanding, of which there is still a great deal at this early juncture of understanding the depth and breadth of these experiences.

This particular research project involved a constant process of challenging and questioning notions that many media scholars, and indeed scholars from other disciplines, take for granted. What can be so easily dismissed as mere frivolity is a profoundly important device for developing skills in the area of virtual cooperation, etc. What is not clear is what motivates players per se, but a significant part of the equation appears to be the emerging opportunity to engage with other individuals from around the planet and demonstrating one's own skills, as well as joining a variety of teams who are developing their skills. What the Internet has already enabled is a wealth of productive activity, much of it motivated by unstructured creativity, participation or play. Communities with memberships encompassing the globe have emerged in an unprecedented fashion, typically in a very loosely organized and self-selecting manner. Collaborative and cooperative efforts have produced a body of information and a degree of activism that is arguably unparalleled historically, except perhaps by the revolution ushered in by Gutenberg's printing press. Games, ironically, may emerge as the ultimate embodiment of what modern communication technologies can enable:

To some of us, computer games are already a phenomenon of greater cultural importance than, say movies, or perhaps even sports. Seen from 2001, the potential cultural role(s) of computer games in the future is practically unfathomable. It seems clear that these games, especially multi-player games, combine the aesthetic and the social in a way the old mass media, such as theatre, movies, TV shows and novels never could. The old mass media created

mass audiences, who shared values and sustained markets, but the mass media communities remained imagined (in Benedict Anderson's sense), with little or no direct communication between participants. Clearly, multi-player games are not like that. In games like *MUD1*, *Ultima Online*, or *Quake Arena*, the aesthetic and the social are integrated parts, and this could be regarded as the greatest innovation in audience structure since the invention of the choir, thousands of years ago. To see computer games as merely the newest self-reinvention of Hollywood, as some do, is to disregard those socio-aesthetic aspects and also to force outdated paradigms onto a new cultural object (Aarseth, 2001).

This 'innovation in audience structure', especially occurring at such an accelerated pace, requires a high degree of capability to adapt and learn, as well as an exciting motivation to do so. Our understanding of learning, and our efforts to engineer effective learning environments in the future, must be informed by the spontaneous, self-organised and emergent learning activities observed in the various natural settings made possible by new media.

For a time, the study of human development was synonymous with the study of learning (Crain, 1985), as it seemed obvious that development and learning were inextricably linked along a predictable trajectory from infancy to adulthood. However, as a practical matter, education has tended to focus heavily on external processes applied to individual learners, based on what others think learners should know, and motivated by external systems of reward and/or punishment. The idea has been that education is an exercise in the manufacturing of good citizens, rooted in a Platonic sensibility but modified by a modernist approach, by motivating people to learn basic skills and memorise critical facts via largely didactic teaching methods. What has been largely overlooked is the idea that learning is a process constantly invoked by learners as a result of both external and internal motivations within a wide range of formal and informal learning contexts, and is a product of both independent and group activity. What we have come to learn is that at its root, as we shall explore more fully later, learning is a process to be fostered and guided (Vygotsky, 1978), not something to be instilled.

In the 1990s, artificial intelligence expert Etienne Wenger and social anthropologist Jean Lave built on Albert Bandura's observational theory of learning, outlining a process they dubbed 'legitimate peripheral participation' through which people learn in loosely-organised groups through a 'gradual acquisition of knowledge and skills as novices [learn] from experts in the context of everyday activities'. The key to legitimate peripheral participation is not an explicit transfer of skills, but rather an intrinsic capability and evolved understanding of socio-cultural nuances resulting from involvement in a community of skilled practitioners: 'Learners inevitably participate in communities of practitioners and that mastery of knowledge and skill requires newcomers to move towards full participation in the socio-cultural practices of a community' (Lave & Wenger, 1991, p. 29). Lave and Wenger coined the term 'community of practice' to describe this loose collaboration. As Wenger has since elaborated, communities of practice are characterised by 'joint enterprise', 'mutual engagement' and a 'shared repertoire' of community resources. The key differentiator between communities of practice and other types of organisations is that 'membership is based on participation rather than on official status' and 'these communities are not bound by organizational affiliations; they can span institutional structures and hierarchies'. In addition, learners must have 'broad access to arenas of mature practice' and be engaged not only in learning activity, but in 'productive activity', in order to participate in a legitimately peripheral way (Etienne Wenger, 1998). In educational circles, communities of practice are often referred to as 'communities of learning', as a way of acknowledging the socio-cultural significance of learning activity, without going so far as to say that learners are engaged in 'practice' in the occupational sense (A.L. Brown, 1994). Barab et al (2001) have underscored the importance of the community of practice as a learning construct, but have emphasised practice over community within a framework that stresses that 'activity and conceptual understanding are so intertwined that it is not useful to try to separate knowing a concept from doing a practice' (p. 7). Likewise, it is the participation in the community of practice as an identity-building opportunity, as in how a group of

practitioners interacts in a professional setting, fellow massively multiplayer online game (MMO or MMOG) researcher Constance Steinkuehler (2005a) has explained how this process works in an MMO environment in which new players develop important socio-cultural literacies that allow them to become full participants in these informal communities of practice:

It's the gradual transformation of an individual from 'n00b' to central member of a community, and it happens in large part through apprenticeship and increased participation in the practices my community values. At the group level, this learning process takes the form of changes in practices, shared knowledge, and artifacts.

As Steinkuehler points out, the 'n00b' (new player, a modification of 'newbie') is a legitimate peripheral participant in this environment and learns to play the game simply by becoming an active participant in the learning culture that surrounds the game. Her work is somewhat similar to mine, but involved a Korean MMO called *Lineage*, and was a traditional ethnography minus the survey component that I opted to include. In terms of the contribution to knowledge of this thesis, it offers extension, validation and parallel thinking. There are few quibbles, only differences that emerge from the fact that the primary research was conducted in different environments, and there is some variation in nuance. However Steinkuehler and I are also experienced in other MMO games (in fact we played together, along with several other game scholars), and that mutual frame of reference makes discussion and comparison easier.

We are both interested in examples of organic learning, yet it is clear to me that a tension lies between the ideas of legitimate peripheral participation as a mechanism for learning and some of the didactic methods of learning employed in school settings. Lave and Wenger contend that 'the way to maximize learning is to perform, not to talk about it' and their studies clearly indicate a preference for traditional occupational settings, such as artisan apprenticeships, rather than classrooms or training. They explain this perspective through the observation that 'locating learning in classroom interaction is not an adequate substitute for a

theory about what schooling as an activity system has to do with learning'. Rather, they believe that 'other kinds of communities and the forms of legitimate peripheral participation therein' hold the key to understanding learning (Lave & Wenger, 1991).

As a result of this inherent tension, the problem of studying social learning phenomena in formal environments, like schools, is huge, if not an empirical impossibility. Skinner (Date) argues that each pupil requires between 2500 and 50,000 reinforcement contingencies. George Siemens (2004), a tertiary educator and theorist, has also acknowledged this problem, suggesting that earlier learning theories developed before the advent of modern communications technologies and rooted in the traditional schooling metaphor may only be pieces of the learning puzzle. Siemens' ideas are Vygotskian in their inspiration, acknowledging that 'learning needs and theories that describe learning principles and processes should be reflective of underlying social environments' in a process that recognises that 'technology has reorganized how we live, how we communicate, and how we learn'. In accordance with constructivist and social constructivist approaches, he believes that learning itself is a 'lasting, changed state (emotional, mental, physiological, i.e. skills) brought about as a result of experiences and interactions with content or other people' (Siemens, 2004). However he finds the prevailing learner-centred approaches, constructivism and social constructivism, both lacking as a result of their emphasis on the individual (in the case of social constructivism, on 'the principality of the individual in learning', despite the array of socio-cultural influences that come into play) and the collective oversight of the fundamental principle that both 'the organization and the individual are learning organisms'. The crux of Siemens' proposal, leading to his newly-coined term 'connectivism', is that learning is a process of forging connections between disparate bits of information stored both in our brains and elsewhere (e.g. databases or indeed, other people's brains), signaling the 'integration of principles explored by chaos, network and self-organization theories' (Siemens, 2004). Though this is essentially a simple view of distributed cognition (e.g. Hollan, Hutchins, & Kirsh, 2000a),



Siemens has done much to popularize the concept among the online learning community<sup>11</sup>.

The starting point of connectivism is the individual. Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network and then continue to provide learning to the individual' (Siemens, 2004).

This cycle of knowledge development (from the personal to the network to the organization) allows learners to remain current in their field through the connections they have formed within their respective communities of practice. In the connectivist sense, then, 'learning is no longer an internal, individualistic activity' (Siemens, 2004). And as much as an individual's learning cannot be separated from its context, in an interconnected world, individual learning is the context for learning at a group or organizational level. The relationship between teaching and learning is neither didactic nor hierarchical, but continuously symbiotic, as each effort builds on the other in a never-ending configuration. Teaching and learning are practices within a learning ecosystem, but in terms of overall knowledge acquired by a group or organisation, the distinction between the two is often indiscernible. Furthermore, these activities contribute to a community's greater intelligence, or in other words, the knowledge resident in the network, available to be accessed by those who, through fluency in socio-cultural practice, can find the path to the resource. Pierre Levy describes this phenomenon as one in which 'mutual recognition and the enrichment of individuals' leads to 'universally distributed intelligence, constantly enhanced, coordinated in real time, and resulting in the effective mobilization of skills' (Levy, 1997), all activities that take place every second in both the physical and virtual worlds. This also plays into Bandura's (2004) recent work on personal agency that illuminates the complex interplay between humans and their environments; not simply subject to the influence of their environments, humans

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<sup>11</sup> <http://www.thejournal.com/the/newsletters/k12techtrends/archives/?aid=19188>

exercise a great deal of agency and affect their environments in a variety of ways. This sort of ecological exchange becomes even more readily apparent in networked environments like the Internet, where one small action, say an amateur journalist's tsunami video <sup>12</sup>, can cause a ripple effect that transforms the media environment, and feeds into the public's perception that they are, or can be, participants in an ecosystem as opposed to passive consumers of what is offered to them.

There is a pervasive sense among educational progressives (e.g. Gatto, 2003) that our current educational systems, rooted in antiquated, industrial teaching methods of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, have not kept up with helping learners achieve the types of literacy made necessary by a complex, networked society and the technologies that accompany it. Recently researchers have illuminated in-formal learning (e.g. Boud & Middleton, 2003; Garrick, 1998; Marsick & Watkins, 2001) as an area of interest alongside formal education and training, as many children and adults are clearly developing the requisite skills outside of (or in spite of?) their formal education experiences. This is particularly salient for those interested in harnessing the capabilities of adult learners who have learned that their success hinges on constant learning, and as such continuously construct their own learning opportunities. Despite this emerging trend, we still tend to limit the recognition and study of learning to that which occurs in formalized, sanctioned settings, or that which is observable in a lab, in large part because these approaches allow measurement that is critical to most systems of accountability (Linn, Baker, & Betebenner, 2002). The flaw in this approach is that these environments are artificial; they do not reflect the way people learn in real life, and they do not, for the most part, take into account the increasing tendency towards collaborative and social learning enabled by participation in digital spaces, including digital games.

## **1.2 A Short History of Virtual Worlds**

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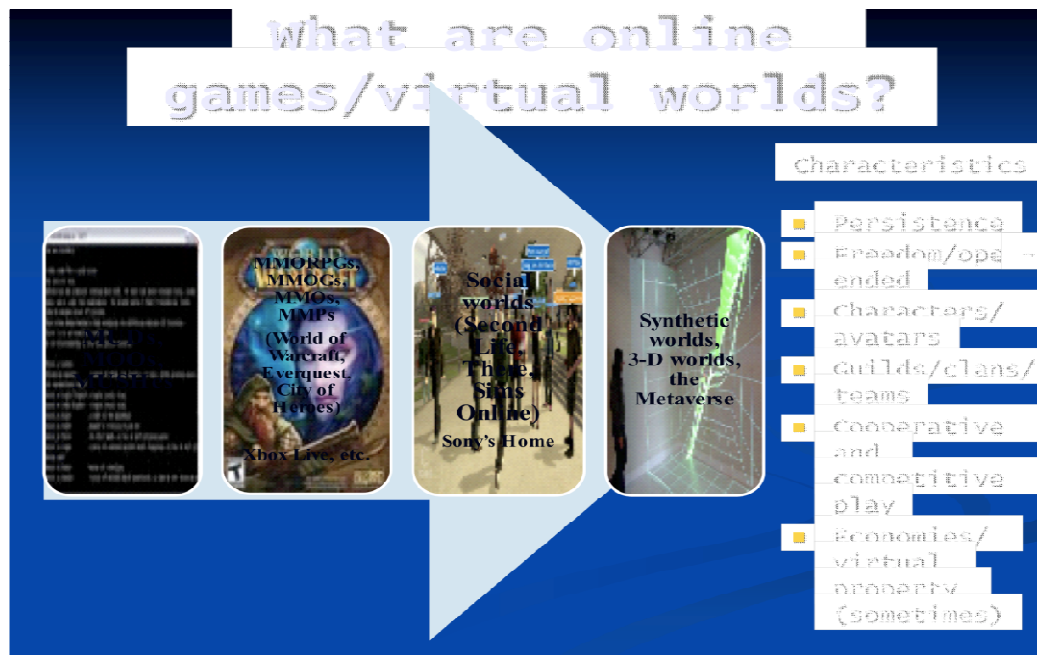
<sup>12</sup> [http://www.economist.com/surveys/displaystory.cfm?story\\_id=6794240](http://www.economist.com/surveys/displaystory.cfm?story_id=6794240)



**Figure 2. Two avatars chatting in the social world (MUVE), *Second Life*.**

Of the myriad communications and entertainment platforms available today, none of them demonstrate the complexity of 21st century social interaction quite like the graphical virtual environments that have emerged as the result of both commercial and enthusiast development efforts over the last couple of decades. Also referred to as synthetic worlds (Castronova, 2005), persistent worlds, multi user virtual environments (MUVEs), social worlds, or the various MMO/MMP (massively multiplayer online/massively multiplayer) acronyms commonly used, virtual worlds are a category of digital space modeled after real or imaginary physical environments in which participants navigate the space with an avatar, or virtual representation, of their choosing. Virtual worlds pioneer Richard Bartle (2003) describes them as multiplayer, persistent, digital ‘places where the imaginary meets the real’ (p. 1). The terminology used to describe the various sub-categories of virtual worlds can be very confusing, even to those well-versed in the area. Virtual

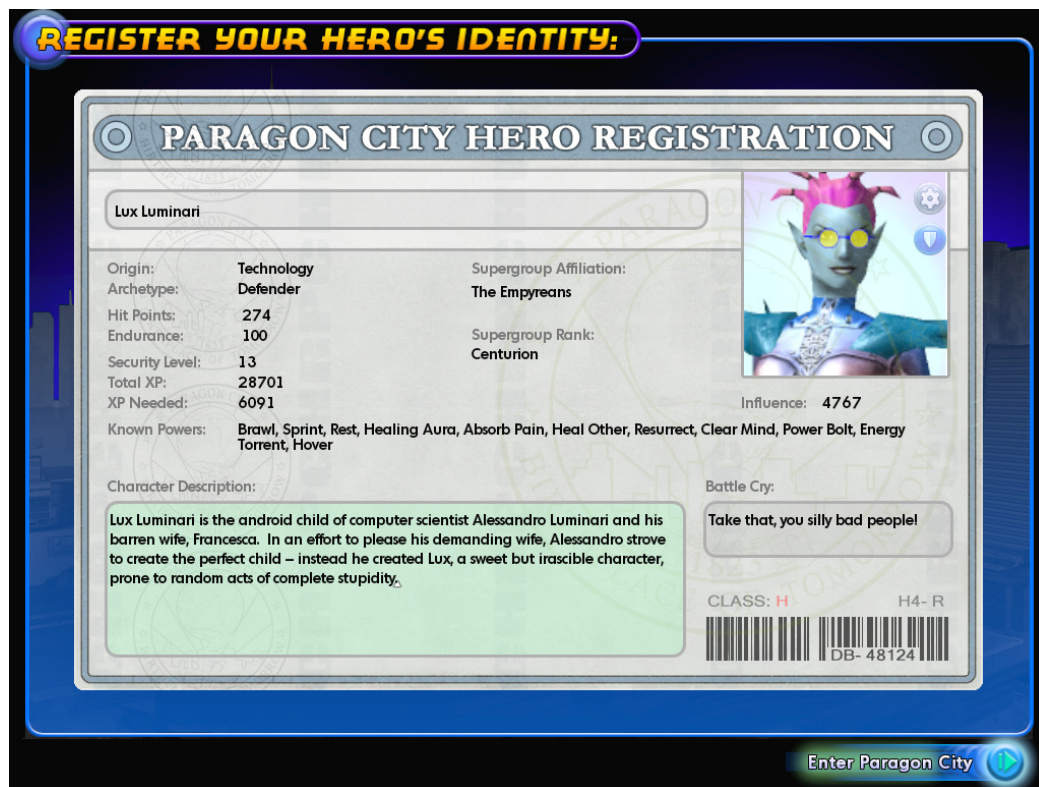
worlds like *Second Life* (Figure 2) and There are also referred to as ‘social worlds’ or MUVes (multi-user virtual environments) and are sites for social interaction, the creation of simulate objects like houses or clothing, or simply enjoyed as spaces for exploration. Massively multiplayer online games (also known as MMOs, MMPs, MMOGs or MMORPGs – henceforth MMOs), on the other hand, are a sub-category of virtual worlds that offer a complex game as a backdrop to, and reason for, social interactions. In both the social worlds and MMOs, these interactions are extraordinary in the sense that people gather from around the physical world in shared digital spaces, cooperating and learning in an effort to achieve mastery of the environment.



**Figure 3. Graphical virtual worlds evolved from text-based MUDs, MOOs and MUSHes.**

In many respects, massively multiplayer online games are a graphical extension of the text-based MUDs (multi-user dungeons) and MOOs (MUDs, object-oriented)

phenomenon that peaked in popularity in the 1980s and 1990s. The MUDs led to a variety of new paradigms in social interaction which are now flourishing and evolving in and around massively multiplayer environments. Many MMOs rely on traditional role-playing and game play within familiar fantasy and science fiction universes and involve classic pursuits like building up characters, defeating enemies and fulfilling quests, all classic elements of traditional pen-and-paper and digital role playing games (RPGs). MMOs, sometimes referred to as MMORPGs (massively multiplayer online role playing games) are graphically similar to many contemporary single-player games in the role-playing game (RPG) genre where the player's character is represented by a player-selected, and often player-designed, avatar which has point-based characteristics and a range of skills and abilities.



**Figure 4. Players create characters according to a range of possible characteristics.**

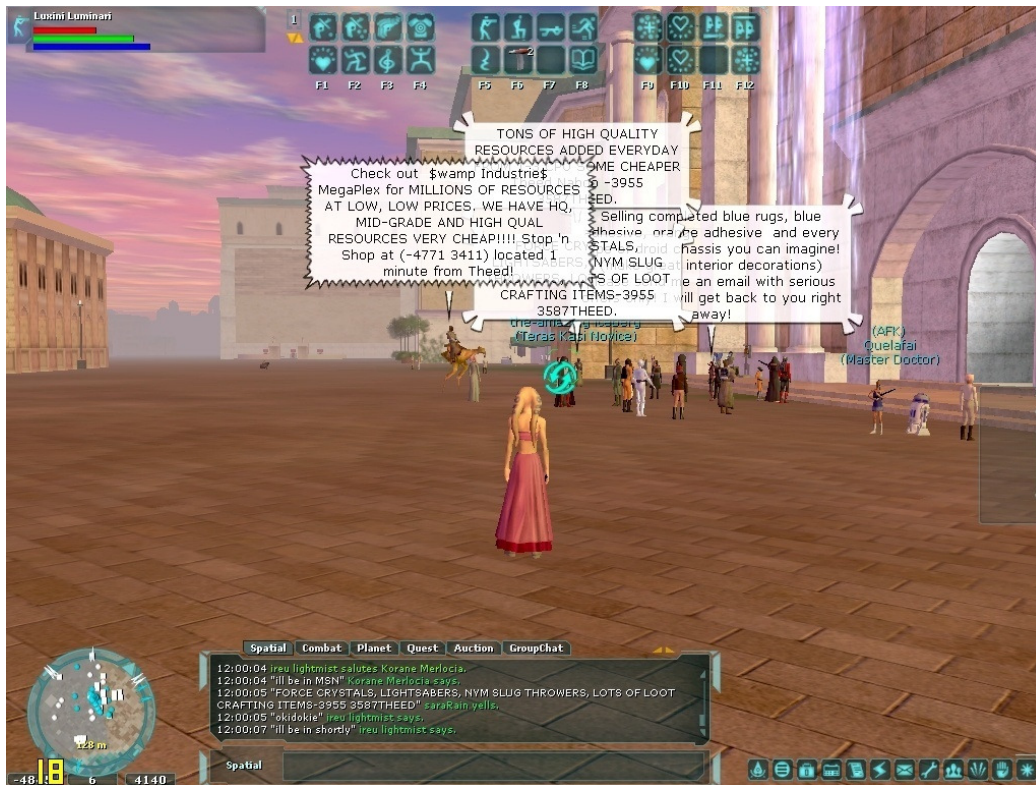
Some games, including the subject of this study *City of Heroes/City of Villains* also allow significant character customization and the development of unique back stories.

These games are unique, however, in that they also require an Internet connection and an account (via subscription) on one of many game servers to be played. At any one time, hundreds of thousands of people might be playing, and each player creates an avatar with game-specific characteristics and a physical representation that they find appealing | (see Figure 4). In some game environments, a focus on role-playing also allows players to create character back stories and other elements that add texture to the character; in this case I have dreamed up a context for my character Lux Luminari, and created an outfit that reflects it, as well (*City of Heroes* and *City of Villains* allow significantly more character customization than any other MMO games on the market). Because of technological constraints, however, players are typically limited to one server, where up to several thousand players might be in the accessible game universe at any one time. While still dwarfed by other online play spaces like *Neopets* and social networking sites like *Facebook* and *MySpace*, the most popular of these games to date, *World of Warcraft*, has reached 11.5 million subscribed players from countries around the world, including a significant population in China<sup>13</sup>. Other popular MMO titles have included *Ultima Online*, *Everquest* and *Everquest 2*, *Asheron's Call* and *Asheron's Call 2*, *Anarchy Online*, *Dark Age of Camelot*, *Guild Wars*, *The Matrix Online*, *Star Wars: Galaxies*, *City of Heroes* and *City of Villains*, *Eve Online*, *The Saga of Ryzom*, *Lineage* and *Lineage 2*, *Planetside*, and *Runescape*.

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<sup>13</sup> [http://en.wikipedia.org/wiki/World\\_of\\_Warcraft](http://en.wikipedia.org/wiki/World_of_Warcraft)





**Figure 5. The Theed Spaceport in the MMO *Star Wars: Galaxies*.**

These games are complex worlds that exhibit many of the characteristics of physical worlds, including robust economic activity and a range of emergent social behaviours.

### 1.3 Games, Play and Learning

While there has been quite a lot of interest in recent years in the possibilities of applying digital games to learning (e.g. Gee, 2003, 2004; Papert, 2002; Prensky, 2001; Squire, 2003), the majority of attention on digital games, when positive at all, has focused on the possibility of using games to achieve certain predetermined objectives related to established curricula, either in traditional didactic fashion or as virtual laboratories for situated learning activity (Barab et al., 2001). The opportunity with game environments is far greater than motivating apathetic learners or transferring information in a somewhat more engaging fashion, however. The play activity that learners engage in is, in fact, the learning opportunity, though

established institutions may struggle with the ‘fuzziness’ and organic nature of this learning:

Important knowledge (now usually gained in school) is content in the sense of information rooted in, or, at least, related to, intellectual domains or academic disciplines like physics, history, art, or literature. Work that does not involve such learning is ‘meaningless.’ Activities that are entertaining but that themselves do not involve such learning are just ‘meaningless play.’ Of course video games fall into this category (Gee 2003, p. 21).

Yet this is precisely the point. People are learning tremendous skills and developing important real-world capabilities like improved team-work capabilities in these games, but this occurs almost exclusively outside of our educational system. Perhaps the dissonance between our expectations of school (both for children and adults) and the realities of digital life boils down to the traditional notion that learning must involve hard work and certainly no fun. Yet play may be the thing that prepares us best for navigating our increasingly complex lives, social spaces, work environments and personal relationships. Indeed, a play ethic might be as important as its work corollary (Kane, 2004). Play theorist Brian Sutton-Smith (2004) has suggested that play represents a ‘consoling phenomenon’ that prepares the player for dealing with life, offering a mechanism for psychologically and cognitively navigating the challenges and difficulties of life. In the past, many of these needs were met through physical play. But in a world where some argue that opportunities for physical play are dwindling <sup>14</sup>, it is likely that virtual worlds are emerging as a way to fulfill some fundamental human needs. Henry Jenkins (2003) explains this phenomenon even more fully, arguing that digital games represent an ‘intensity of experience’ and ‘complete freedom of movement’ that has disappeared as children (and perhaps adults, as well) have fewer physical spaces to play in. As Sutton-Smith (2004) describes it, play is a way of achieving both competence and confidence in

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<sup>14</sup> [http://news.bbc.co.uk/2/hi/uk\\_news/6986544.stm](http://news.bbc.co.uk/2/hi/uk_news/6986544.stm)



the world. Play is a refuge, but it is also more than that, it is a fundamental necessity for many aspects of human development. Or, in the words of Howard Rheingold (1992), 'play is a way of organizing our models of the world and models of ourselves, of testing hypotheses about ourselves and the world, and of discerning new relationships or patterns in the jumble of our perceptions' (p. 374).

Play is particularly critical to learning geared towards transformation or shifts in perspective. Dubbed 'transformative learning' (Mezirow, 1991) and now referred to as 'transformative learning theory' in adult education circles, it came out of Jack Mezirow's earlier work on perspective transformation, an idea shaped and quite similar to Paulo Freire's 'conscientization'. It is not dissimilar from the Platonic idea that education should be about creating better citizens, arguably a goal that is far more dependent on encouraging people to evolve productively than one focused on filling heads with information in the hope that it will become appropriately actionable at the right time. Wikipedia states that it 'often involves deep, powerful emotions or beliefs and is evidenced in action' (Wikipedia, 2009), and role play is frequently a commonly used pedagogical method to access its capability. The key, particularly in the domain of morals and ethics (Reynolds, 2002 et al), is that transformation most often comes from experience – perspective can literally shift by exposing learners to new situations that allow them to experience alternate points of view. The beauty of the idea of transformative learning is that such experiences can be designed and enacted through play in both physical environments and virtual ones. A simulated experience can be equally valid, and even preferable, as in the case of arachnophobes or those who fear flying, who desensitize themselves to their phobias in virtual reality labs in a practice dubbed 'exposure therapy'<sup>15</sup>.

In the words of game designer Will Wright (designer of the Sims), play is navigation through a possibility space. In this same regard, role-playing is the classic transformative learning technique, allowing us to break out of our assumptions about the world:

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<sup>15</sup> <http://www.hitl.washington.edu/projects/exposure/>

Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and, finally, making choices or otherwise acting upon these new understandings (Cranton, 1994, p. 22).

In many developed countries across the world, we are now seeing a shift towards play in virtual environments. But how does one learn to play? And what does 'learning to play' really mean? It has been observed that digital games are often designed as 'learning machines' (Gee, 2004) that rely on intuitive, convention-based game design to scaffold a player's learning of the mechanics of game play and the game environment as player 'curiosity takes the form of explorative coping' (Grodal 2003, p. 149). But in the dynamic, sophisticated and collaboration-based MMO environments also emerges a rich culture of learning support. Not only is interdependence designed into the games via game mechanics that rely on team participation, but the flexible parameters specified by game designers involve creating an interactive world where environments are in constant flux: rules change, documentation is scarce, and the mastery of the game relies on a host of skills well-beyond game manuals, though they may initially try to find guidance, or at least a basic introduction to the world, in the same way one might read a travel brochure, yet still arrive at one's destination overwhelmed by the strangeness of it all:

In the first few hours of a new game, players go through tutorials and read manuals in order to acclimatize themselves with the operations of the game mechanics, physics and rules. Players take the first uncertain steps in the domains offered for exploration, experiment with running, jumping, leaning around corners. The boundaries of character creation are prodded and initial strategies of (virtual) world domination are formed; the immediate surroundings first, then onwards and outwards. In geographically rich game worlds, the first areas are explored slowly and thoroughly, until a mental image of the world/country/region/city's layout is formed. The background story, delivered in

the game manual, scrolling text or introductory video is offered, and at times forced onto the player. In MMOGs, the first lines of communication are typed in chat boxes; in FPS multiplayer the frantic cries of “Follow me”, “cover the corridor” and “come on RUSHHH you noob” are heard. It is all very confusing at first, but slowly, the player learns the ways of the (virtual) world, and with this learning comes a performed matter-of-factness (Calleja, 2007, p. 212)

Beyond basics such as character classes and keyboard shortcuts, many players report that the manuals are essentially useless, a fact that is well-known by game developers who generally assume that no one will be reading them:

The Manuals are USELESS BTW. They describe things that are not true or accurate. – Caucasian Male *City of Heroes/City of Villains* player. Engineer, age 25-39. Ohio, U.S.A.

The manual is not useful for anything except the most basic questions, and since things change every couple of months, even parts that were originally helpful may be wrong now.

– Caucasian Male *City of Heroes/City of Villains* player. Musician/Inventory Manager, age 40-54, Texas, U.S.A.

As a result of this lack of viable documentation provided by developers, the community becomes mutually responsible for gathering and codifying information relevant to game play. Indeed, these games and the strategies for playing them are exercises in co-creation where players, as co-producers, can influence the rules, affect the outcome, and create a rich universe of social interactions and culture that ultimately become the core of game play, rather than the periphery. In this case, ‘the community serves as both context and content, providing implicit and explicit structures that encourage community-accepted types of participation over other types’ (Barab et al., 2002, p. 6). In other words, learning to participate in the community is as important as any content to be learned and, in fact, relegates the content itself to a secondary position in light of the fact that the content resides

within the community and can be accessed readily, providing one has developed the skills necessary for participation.

The process required to achieve game goals and reach the pinnacle of achievement, typically a high-level character, can result from a range of approaches and quite often involves hundreds of hours of collaborative play in a multi-user environment. For whilst individual game play is possible to some extent, the game play mechanics are generally such that true mastery of the game can often only be achieved by working cooperatively with other players. In fact, some of the games are designed specifically to require interdependence between players:

The game [*Everquest*] is designed in a way that makes grouping essential for achieving success, a concept that has been central in role-playing games since the days they were played with rulebooks, pen and paper... It is only through working with other players that individual gamers achieve maximum results (Jakobsson and Taylor, 2003).

Like many other social systems, the emergence of groups in MMOs follows the classic rules of emergence in other biological systems. As with the organism that 'spends much of its life as thousands of distinct single-celled units, each moving separately from its other comrades, but then under the right conditions, those myriad cells will coalesce into a single, larger organism' and 'it becomes a they' (S. Johnson, 2002). Much like rhizome theory describes non-hierarchical structures that grow from various hubs, like hypertext (Landow, 1997), emergence describes phenomena within a complex system that inhabits a space somewhere between simplicity and chaos, in which 'the global behaviour of a system results from the actions and interactions of agents' (Sawyer, 2005). In these game universes, players, like other living organisms, 'think locally and act locally, but their collective action produces global behaviour' (S. Johnson, 2002). Leveraging the emergent qualities of human social systems is one of the most important aspects of MMO development. It is incumbent upon game designers to create a space in which social behaviour can flourish, without prescribing specific tasks or having game design tied to players behaving in particular ways. In fact, during the time I worked

as a researcher at Microsoft Game Studios (2006-2007), the focus was on creation of 'sandbox' games that allowed the player a great degree of freedom to manipulate a flexible environment created by developers. The idea was that individual players were drawn to the creation of individual narrative within game spaces. This was true of single player games as well as massively multiplayer games.



Figure 6. This video of a player designed game called Repel Ball appeared on YouTube.

The game-within-a-game leverages emergent capabilities within *City of Villains* by creatively appropriating the game mechanics to create a soccer-like game in which non-player characters (NPCs) are tossed about like balls.

The sandbox effect is an outcome of developers designing for emergence by creating mechanisms with which players can both explicitly and ephemerally form social groups. Figure 6 is a screen capture of a game within the game that *City of Villains* players created that was not anticipated by designers at all. This happens quite frequently, and a good game is one where players can do myriad things that designers would have never anticipated.

Interestingly, some players primarily play MMOs alone, a behaviour referred to as 'solo-ing'. MMOs do not require social play, but players generally benefit from it, and there are few reasons to play such a game unless one wants to play with, or be observed or distantly accompanied by (Ducheneaut, 2006), other players.

Frequently players will start a game by playing alone for some time, then will gradually forge other relationships that allow them to choose from a variety of activities. Some players prefer to spend a large portion of their game time in what is termed 'pick-up' groups, where players seek one another out in order to accomplish a specific task. Larger group affiliations, often referred to as guilds or clans, typically span multiple sessions of game play and rely on somewhat deeper relationships between members. Guilds, with a much less ephemeral nature than pick-up groups, have an even greater effect on the culture surrounding the game and the game's overall identity:

...Guilds actually contribute to the broader collective knowledge of the game... Guilds themselves come to act as unique agents – entities made up of more than the sum of their members – in the broader game community (Jakobsson & Taylor, 2003).

Whether one is playing continuously with other individuals is the hallmark of the MMO game, and that experience, often spanning a period of months or even years, is a considerably different one than the single player game. Players often jump online at a prescribed time every day, and might spend several hours in an evening playing. This play is often motivated by affiliations with groups that have come to depend on their members. In fact, one's commitment to the game frequently becomes a gating issue: players in guilds are expected to turn up for guild events and meetings, and a lack of participation will result in a player being marginalized.

What this all means is that guild affiliations are matchmaking exercises, and often examples of basic trial and error as players work to find groups that they are compatible with. The lifecycle of a group is immensely fluid as groups form, break apart and reform. Some interactions last only a few seconds, whilst others are long-lived interactions that span many game sessions and may extend outside the

game, both virtually into the 'meta-game' and outside the virtual world entirely, into the real world. Some relationships even begin in the real world, then find alternate manifestation in the game world (Steinkuehler, 2004a).

Social interactions in virtual worlds are given myriad, shifting dimensions through explicit role-play or an implicit, evolving attitude towards the sense of self, as participants learn that they can 'approach one's story in several ways and with fluid access to one's different aspects' (Turtle, 1985). In massively multiplayer games there tends to be less emphasis on explicit role-playing, yet groups, in either transient (short-term affiliations) or permanent form (longer-term guild affiliations), become fundamental to identity, particularly as individuals strive to identify with groups they want to continue to affiliate with (Tajfel & Turner, 1986). Group identities evolve through the contributions of their individual participants, much as they do in the real world. However the possibilities for play, and indeed for learning, afforded by these virtual environments are quite unimaginable in the real world. As Turtle has observed of virtual identities, 'we are encouraged to think of ourselves as fluid, emergent, decentralized, multiplicitous, flexible and ever in process' (Turtle, 1985). Likewise, group identities in massively multiplayer games embody the same ephemeral, shifting characteristics. Players can join and leave groups freely, with little technical hindrance and few barriers to participation. They can play a range of characters who influence their groups in a variety of ways and give them many possible avenues for participation, as fighters, crafters, healers and supporters. Players may seek 'collective and communal identities' (Filiciak, 2003), but they do so in a fluid way. The manner in which social groupings occur in massively multiplayer games magnifies this effect. No one is assigned to groups by a central authority. There are no rules, other than party size, for how groups must be structured. Instead groups emerge in an entirely decentralised and self-organised way, through a process of negotiation between players, based on some loose norms and even looser relationships. Of particular relevance to life outside these games is the fact that these groups come together spontaneously, and though learning is not the

primary goal, it is an integral part of achieving mastery within the game environment.

#### **1.4 Spontaneous Communities of Learning**

Now that we have established the need to develop skills that are integral to life in a 21<sup>st</sup> century networked society, we can focus more strongly on how these skills are already being developed via various informal mechanisms. For instance, communities of learning are typically regarded as a construction that provides an extension for learning beyond a formal educational environment. This thesis is concerned with an organic permutation of the same theme: the community of learning that emerges spontaneously via collaboration in environments where learning is a critical form of productive activity. In this case I have chosen to focus my attention of the dynamic nature of MMO environments that makes real-time, on the fly learning all the more critical; this learning is not simply limited to content knowledge about the games, though there is often a perception that this is the case. In fact, there is also a vast array of socio-cultural literacy that is developed on an ongoing basis. All of these interactions contribute to a substantial sense of community and investment in each other, deliberately designed by the game developers like Brad McQuaid of Sony Online Entertainment:

Community is relationships between players, whether it be friendly or adversarial, symbiotic or competitive. It's also a form of persistence, which is key to massively multiplayer games. Without community, you simply have a bunch of independent players running around the same environment. Players won't be drawn in and there won't be anything there to bind them. The key to creating community, therefore, is interdependence. In *Everquest*, we forced interdependence in several ways and although we've been criticized for it, I think it's one of a couple of reasons behind our success and current lead. By creating a class-based system, players NEED each other. By creating an environment often too



challenging for a solo player, people are compelled to group and even to form large guilds and alliances. All of this builds community, and it all keeps players coming back for more and more (Jonric, 2002).

Digital games, like television, film and books, are media that consumers often approach as if no explanation is necessary for how to interact with them, despite the need to develop a literacy to interact with them. However, like software, digital games do have a considerable learning curve. But interestingly, there is an important distinction between how players learn to play games and how they tend to learn to use other tools, a process that is often learned using didactic techniques, modeling activities, or 'learning-by-doing' paradigms accompanied by explicit instruction. As I mentioned earlier in the chapter, digital games, it is claimed, are often designed as 'learning machines' (Gee, 2004) that rely on intuitive, convention-based game design to scaffold a player's learning of the mechanics of game play and the game environment as player 'curiosity takes the form of explorative coping' (Grodal, 2003). During my experience at Microsoft Games Studios, it became clear very quickly that the perfect learning curve was, in fact, a key aspect of digital game design there. Many of the attitudinal play-testing metrics were geared towards understanding whether designers had been successful in this regard: a game that was either too easy or too hard in the first hour of game play was likely to score badly in consumer testing. It is as if good game play sits at that juncture between challenge and frustration that so typifies most people's experience of flow, Csikszentmihalyi's (1996, 1998) concept of an optimal productive experience.

In the dynamic, sophisticated and collaboration-based MMO environments there also emerges a rich culture of learning support. Not only is interdependence designed into the games, but the flexible parameters specified by game designers involve creating an interactive world where environments are in constant flux: rules change, documentation is scarce, and the mastery of the game relies on a host of skills well-beyond the game's manual. Indeed, these games and the strategies for playing them are exercises in co-creation where

players, as co-producers, can influence the rules, affect the outcome, and create a rich universe of social interactions and culture that ultimately form the core of game play, rather than the periphery. This is the primary distinction between these games and those that are more typically confined to one's experience playing on a console, mobile device, or even PC: playing in the meta-game (the areas peripheral to the game, but about the game, like online message boards and the like) becomes as critical a part of the game play experience as playing the game itself. Preparation for play, and the discussion of play, can also occupy time that cannot be spent working, like time at work, or while travelling. All of these activities result in a robust co-created environment that surrounds, and sometimes overlaps, the game itself.

The meta-game's learning support mechanisms are underpinned by flexible and ever-changing social networks of experienced and inexperienced players who engage in symbiotic relationships, exchanging game tips and artefacts both in-game and outside of it, scaffolding the learning of less experienced players and allowing more senior players to make their knowledge explicit and impactful. Further, there is an ongoing process of behaviour modeling that allows players to continue to evolve their social approaches within the game and understand the shifting nuances of an emerging culture. This aspect also allows for Lave and Wenger's legitimate peripheral participation where players learn from proximity to learning in the game, often in a very explicit manner as they observe conversations between players. Beyond the necessary interactions wired into games through designing interdependence, there are a variety of socio-cultural mechanisms at work for helping people through the game, 'as people's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in socio-cultural practice' (Lave & Wenger, 1991).

Of key importance is the idea that individuals learn within this environment, but so too do their contributions and learning impact the learning of the groups and in-game communities to which they belong. Much like many media consumers 'poach' assets and make them their own (Jenkins, 1992, (De Certeau, Giard et al.

1998), many game players take it upon themselves to devise and share strategies that help them master the game. Sometimes these strategies include the discovery of game 'loopholes', exploited by players contrary to the intent of the game designers. A loophole might be an area in the game that allows players to achieve more experience points (a common measure of progress) in a shorter time than they might otherwise achieve. These loopholes are often the result of coding bugs and not something the developers typically want players to discover, so they are apt to go to great lengths to close them as soon as possible, depending on how much benefit they yield to the players. As such, there is no documentation about these opportunities, yet players pass the knowledge from one player to another, until a 'tipping point' is reached and a majority of players begin engaging in the activity, a phenomenon which often happens quite quickly as the information propagates from player to player. This sort of self-initiated learning activity, resourcefulness, team-work, and innovation is precisely what a chorus of voices (e.g. Bahrami & Evans, 1997; Drucker, 1999; Garrick, 2000; Lowe, 2002; O'Sullivan, 2002) have called the fundamentals of 21st century knowledge-worker capabilities. Players demonstrate a tremendous awareness of the environments they play in, and take responsibility for sharing that awareness with other players. This sharing is seldom rewarded directly, but players recognize that their investments contribute to a culture in which everyone is encouraged to contribute, thus guaranteeing that when they themselves need something, their virtual 'karma' will be fulfilled.

The way in which individuals interact with one another outside the game, using the game as the cornerstone of a rich web of 'meta-game' social and learning interactions is also typical of the sorts of knowledge exchanges many organisations hope to foster. These peripheral activities extend the community of practice into different virtual spaces and even real life, then back again. As Steinkuehler (2004) argues:

MMOGaming is participation in a discourse space, one with fuzzy boundaries that expand with continued play: What is at first confined to the game alone

soon spills over into the virtual world beyond it (e.g. websites, chat rooms, e-mail) and even life off- screen (e.g. telephone calls, face-to-face meetings). The discourse communities these practices serve likewise expand from collections of in-character playmates to real-life affinity groups. Understanding the forms of participation in complex communities and environments such as MMOGs where learning is the precursor to playing – if not the very same thing – is crucial (Steinkuehler, 2004a).

The meta-game is a treasure trove of player created content and intelligence gathered from within the virtual worlds themselves and spread across many officially sanctioned and amateur-run websites. The fact that these artefacts exist serves to underscore the incredibly cooperative nature of these endeavours: players codify knowledge, like how to defeat a certain enemy or use a certain capability, in a game-related gift economy in order to help other players. While not entirely altruistic, the economic pay-off tends to be minor; players might be thanked for their contributions, but they are seldom paid. Most contributors are happy with either explicit social capital, the personal sense that they have contributed to helping the group achieve mastery of the game environment, or the knowledge that their contribution encourages others' contributions. Furthermore, these contributions often draw developers in, as well, and occasionally result in changes initiated by players, but implemented by the developers. One area of exploration for the ethnography I conducted was around the relationship between developers and players, as well as the various websites that support the games, and the degree to which that relationship is a symbiotic one. Are game environments substantially complex, to the point that even the developers find prediction of player behaviours and other emergent characteristics problematic? It is precisely the complexity of these environments that makes them such fertile ground for research. Players are compelled to explore and achieve mastery of the environments and developers and publishers are often in an ongoing process of seeking to maintain the ecological balance and keep the environment in that steady state that makes the game fun for everyone. Learning occurs on an individual basis through collective endeavour, not

because of explicit intent but because learning is integral to the process of adapting to the environment.

Even researchers like John Seely Brown, who are not focused on game studies but rather on larger information society trends, recognise that this sphere of activities around MMOGs represents an entirely new kind of social learning experience:

Understanding the social practices and constructivist ecologies being created around open source and massively multiplayer games will provide a glimpse into new kinds of innovation ecologies and some of the ways that meaning is created for these kids --ages 10 to 40. Perhaps our generation focused on information, but these kids focus on meaning --- how does information take on meaning?? (J. Seely-Brown & Kahan, 2004) .

The ecological metaphor is an apt one as game environments are 'learning cultures consisting of shared and contested meanings whose perpetual evolution lies at the very heart of [the] learning processes'. Spontaneous learning is a core component of such a culture and the key to adaptability, as we "move beyond the popular conception of learning as an activity that is bounded by teaching, educational institutions and learning prescriptions to one which recognizes that learning invariably transcends such boundaries' (James and Bloomer, 2001, p. 9). In fact, these gaming environments often reflect a fervour for learning and cooperation that we perceive as missing from more formal educational institutions, as Douglas Thomas (2005) argues: 'the level of skills [players] achieve in the pursuit of active and committed citizenship in virtual communities may exceed expectations of teachers in schools.' Even though these activities do not tend to fit within prescribed norms for what is educationally valid, there are myriad examples of tremendously sophisticated learning and intellectual maturity, sometimes well beyond the level expected for someone of a particular age. For example, 'the literacy skills children attain through playing Gathering of the Elves, as evidenced by their written role-playing language, reflects a high lexical density and complexity, detailed descriptive nominal groups, and a high degree of symbolism and figurative expressions' (Thomas 2005, p. 31). This sense of citizenship is not limited to online environments, either.

Researcher Dmitri Williams found that his participants were more likely to engage in offline civic activity after experiencing the agency of activities in virtual worlds (D. Williams, 2006). It is my contention, in fact, that the burst of activity, especially amongst the younger voters we have seen in this year's presidential election, is the result of a confluence of factors spanning transparency and participation, but all aided by the rapid rise of digital capability and culture.

The development of soft skills such as collaboration, cognitive and social intelligence, ability and will to participate, etc. are not the desired end, but are a form of collateral learning (Johnson, 2005b), the means that allow players to engage in cooperative activity and be successful in these environments. Players that do not achieve mastery in navigating the social terrain of the game are often unable to find grouping partners or maintain relationships, and therefore unable to tackle some of the more difficult missions in the game. One way to look at it is that players self-organise into communities of practice united around the activity of game play, yet this self-organisation results in the development of a range of capabilities towards which the players are not directly striving, yet are fundamental to mastery within the environment:

Players acquire knowledge in context and in pursuit of immediate goals. Learning is done in the service of game goals... players are immersed in an environment and the learning is done incidentally through problem solving... Players have to figure out everything they need to know to feed themselves, stay safe, rise in experience, acquire the items they covet, and navigate the world around them. But, in this game, they do it by picking up some knowledge that actually has some use in the real world. The game's design is not meant to trick people into learning. It's meant to give players the tools they need to succeed in the virtual world, but tools that might be useful in the real world, as well (Kelly 2004, p. 185).

These self-organizing and collaborative communities are what Robert Putnam in his 1995 article 'Bowling Alone,' describes as networks of 'social engagement, fostering sturdy norms of generalized reciprocity and encouraging the emergence of social

trust. Such networks facilitate coordination and communication, amplify reputations, and thus allow dilemmas of collective action to be resolved' (Putnam, 1995). Putnam laments what he perceives as the absence of civic engagement in contemporary society. While the underlying argument might be debatable, researchers like Steinkuehler and Williams (2005) have argued that MMOs are increasingly a powerful form of such engagement, referring to them as new 'third spaces'. I would argue, however, that MMOs are not as much replacement for historical third spaces like bowling alleys and civic centers, but rather constitute a whole new kind of experience that includes some facets of Putnam's civic society, whilst simultaneously allowing participants to develop a whole other set of skills and literacies to be demonstrating in later chapters. What is key is that contrary to popular concern about media and games decreasing social and civic interactions, MMOs have been found to foster bridging ties (broad but weak social networks), while having little of the perceived negative impact on stronger ties like family (Steinkeuhler and Williams, 2005), though there are certainly exceptions to this trend, as members of the *Everquest* Widows and other so-called groups will attest <sup>16</sup>. Indeed, many nuclear families and romantic couples are playing together, and extended families and social networks are finding it a practical and fun way to keep in touch. This emerged quite strongly in both my research, and through others (Yee, 2005b), as well, and is particularly true of female players. A Digital Futures Project (2005, p.17) study reveals that more than 40 percent of respondents say that use of the Internet has increased or greatly increased contact with family and friends.

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<sup>16</sup> <http://Everquestdailygrind.blogspot.com/>



**Figure 7. MMO players frequently mark real life occasions with in-game events.**

In this scene, players have leveraged the costume customization function to dress in red and green holiday themed outfits. This type of activity is often viral and spreads from player to player.

### 1.5 Controversies

There are certainly areas of concern when considering digital games generally and online games in particular. Like television before it (e.g. Buckingham, 1993), there has been a tremendous amount of media coverage in recent years that concerns itself with possible media 'effects' of digital game play. And while these effects have never been strongly proven, having relied on loose correlation studies with a notable lack of reliable long-term data (Ivory, 2001), we continue to revisit the same concerns, perhaps because media are such a reliable scapegoat (Dmitri Williams, 2004) for problems like poverty, poor education, child abuse, racial/gender tensions,



school bullying and the like. Because it seems intuitive that playing digital games, and particularly violent ones, cannot be good for kids, even professional health organizations like the Palo Alto Medical Foundation make misleading statements that confuse the issue for parents:

This quality makes the video game industry a powerful force in many adolescent lives. However, numerous studies show that video games, especially ones with violent content, adversely affect a teen's aggressive behaviour (Norcia, 2004).

It is interesting that this statement withstands editorial scrutiny despite the fact that it was written by a college student who accompanies the text with her own essay on the topic, and a link to an organization that encourages children and adults to watch less television. While it is certainly reasonable to evangelize that point of view, it is dangerous to do so in this sort of advisory context. This article, and others like it, is often the primary source of professionally-guided information about these topics. Unfortunately, organizations like the Palo Alto Medical Foundation allow them to be published on their website without rigorous scrutiny (though it indicates that it was 'Reviewed by the Web Content Committee of PAMF'), perhaps because they are simply happy to have someone contribute some content in this area, particularly content that supports widely-held suppositions. Yet they perform a tremendous disservice to their communities by supporting a bias-laden approach that makes statements like the following: 'The most widely used **'positive'** impact video games are said to have on children is that they **may** improve a player's manual dexterity and computer literacy' [original emphasis](Norcia, 2004). This misleads readers and takes the focus away from a holistic view of digital game play, including the good and the bad, and focuses on the negative to such a degree that parents and teachers shut down entirely to their possibilities. What is needed is a view that takes into consideration these studies, but also contextualizes them.

Norcia's other content on the Palo Alto Medical Foundation site also takes a decidedly anti-game/anti-media stance:

Today's sophisticated video games require players to pay constant attention to the game as compared to passively watching television or a movie. As active participants in the game's script **players strongly identify with violent characters** portrayed in violent video games. This identification with characters in video games increases a player's ability to learn and retain aggressive thoughts and behaviours they see portrayed in violent games. (Norcia, 2004)

Not to put too fine a point on it, but it is typical that when challenged, these pundits admit that they have not played the games in question, nor really played very many games at all <sup>17</sup>. Outside the realm of pure opinion, even while apparently well-supported by academic literature and research findings, the majority of meta-analyses reveal the correlative and short-term effects bias in many digital game studies (Ivory, 2001 et al) . There is a well-intentioned desperation to prove what seems intuitive: that digital game play is producing a generation of children who are violent, apathetic and unhealthy. Despite the lack of compelling evidence about long-term effects of digital game play, it seems intuitive that having kids interact with violent imagery cannot possibly be good for them and often findings are misrepresented to support the gut feeling that many people have about games. Even such respected establishments as the American Psychological Association makes misleading statements that mix correlation findings with an assumption of causality:

Extensive research has shown that higher levels of children's exposure to media violence correlate with increased acceptance of aggressive attitudes and increased aggressive behaviour. Recent studies associate exposure to violence in the media with violent behaviours. Parents can limit young children's access to violent media, and teachers can encourage families to take such steps (American Psychological Association, 2005).

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<sup>17</sup> <http://kotaku.com/348355/quack-gets-amazon-book-rating-spammed>

An analysis of just one of these statements demonstrates how easily it can be misinterpreted. The fact that recent studies associate exposure to violence in the media with violent behaviours can mean a variety of things:

- People who are prone to violence enjoy engaging with violent media
- Children who are left to their own devices might watch violent media, but the violence might result from neglect or other factors
- Those who are prone to violence for other reasons might find specific inspiration in digital games, or might be willing to fight over a game or game system, but there are also many other reasons why people commit violent acts.

What is often overlooked is that there are millions of people who play violent digital games without becoming more aggressive. To Jack Thompson's point referenced earlier, that violent games train people to be 'killing machines', author Rusel DeMaria (2007) points out that if that were the case, anyone who returned from military training of any sort might be similarly inclined. It seems clear that violence in digital games is taken more seriously by those who observe game play externally than by those who themselves play. Players typically focus on themes like team-work, camaraderie and communication, in fact, and will only mention overarching violent themes when specifically queried. It is as if the thematic backdrop fades into insignificance beside the ludological character of the experience. DeMaria explains, based on his forty years of experience as a gamer:

Games are about challenges. ... I don't see the enemies in the game as people. I see them as challenges. In real-world warfare, the enemy is often depersonalized, no longer treated as human, but rather as 'the enemy'. This desensitization to the 'other' is one of the criticisms that have been leveled at video games; however, from the gamer's perspective, the correlation is missing. In the case of video game enemies, I am keenly aware that they are graphical representations of computer programs. People who worry about game players transferring actions from games to real life often miss the fact that, absent other sociological problems, game players know that they are

actually playing a computer program that generates graphical images resembling creatures and approximating (generally poorly) intelligent or purposeful actions (DeMaria, 2007, p. 27)

Even apparently violent squad tactics games like Counter-strike can offer many benefits in terms of skill development because they are fundamentally cooperative games where one team must work together to defeat another, just like in most sports activities. For those parents and educators concerned about violence, it is useful to consider studies that suggest that for most players, the ability to use digital games as an outlet for aggression can have a positive outcome on feelings after a game play session. Many young male players, while experiencing elevated heartbeats during play, appear and report being much calmer after play, thus substantiating the idea of catharsis put forth by some researchers (Ivory, 2001). Other research has suggested that fantasy and make-believe violence are extremely important aspects of human development, particularly among boys (Jones, 2002). Regardless of what the effects data look like, parental involvement in digital game play is an incredible opportunity to engage kids and ask them tough questions about their violent play, for instance, mediate or maintain a watchful eye when appropriate over their relationships with online friends (especially in the case of younger children), or provide jumping off points to areas of interest that might have been cultivated by the play.

### **1.6 Other Misconceptions**

As researchers like Schott and Kamburi (2003) have aptly demonstrated through their observations of groups of gamers gathering around a single-player game, digital game play is not the exclusively solitary experience that many unfamiliar with the medium imagine; nor is the game itself some sort of 'electronic friend' (Selnow, 1984), as if it is meant to take the place of human interaction. Indeed, it has been argued that games themselves are not interactive at all, merely sites for a plethora of possible interactions both within the context of game play, as well as surrounding

it; they 'typify the kind of sociability we see not only in games, but online in general' (Taylor, 2006, p. 91). In fact, enjoyment of games is not limited to those who are actively playing, as onlookers also demonstrate a high level of engagement (Newman, 2002) and it has been noted that, in particular, 'children do not play games in isolation. Often, they play in groups, and when they do not, they share their experiences socially' (Squire, 2003, p. 10). Recently game consoles and various mobile gaming platforms have capitalized on this predilection by designing games (e.g. *Guitar Hero*, *Rock Band*, *Singstar*) and hardware (e.g. the Nintendo Wii and DS) with sociability clearly in mind. Players have responded by posting their game play experiences online<sup>18</sup>, and even mainstream party organizing sites like eVite offer tips and templates for throwing such parties<sup>19</sup>.

But the other area of grave concern is so-called online game 'addiction,' a phenomenon that researcher Nick Yee (2005a) prefers to term 'problematic usage.' This is a tricky area, as a small percentage of players do exhibit undesirable behaviours when they neglect real-life needs as a result of their enthusiastic game play. In fact, officials in Beijing have opened gaming and Internet addiction clinics in China<sup>20</sup>, and enacted legislation attempting to limit the amount of time players can spend in gaming cafes<sup>21</sup> because they are so concerned about this tendency to escape to virtual environments. Professor Edward Castronova proposes that this activity presages an imminent exodus into virtual worlds, a new frontier (Castronova, 2007). Perhaps these so-called addicts are early pioneers, a category of people in any era who are often regarded as more than a bit misguided. At this point, however, this is certainly the exception rather than the rule, and really only proves the point that given the opportunity, certain individuals will take any behaviour to an extreme.

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<sup>18</sup> E.g. <http://www.youtube.com/watch?v=TYiC6Ax1Sac>

<sup>19</sup> <http://www.evite.com/app/cms/ideas/wii>

<sup>20</sup> <http://www.wired.com/culture/lifestyle/news/2005/07/68081>

<sup>21</sup> <http://www.afterdawn.com/news/archive/9374.cfm>

Again, adult involvement is critical here. Parents and educators can help kids avoid the issue of problematic usage by helping them to moderate the amount of time they spend playing, an important consideration given the highly rewarding nature of online game environments, especially for the socially withdrawn. And for both kids and adults, it is critical that we help people learn to transfer the skills that they develop in virtual worlds to offline environments, as well. Otherwise it can be too easy for some players to withdraw into those worlds, especially those in challenging physical environments, lacking the perspective that an online game need not be the only vehicle for meaningful social relationships. Sadly, adult involvement, while a necessary component of any child's developing media literacy, has been a point of contention. Many parents and teachers vilify digital games, but do not make the effort to understand them: 'it is not the children who are retreating, but parents, as a result of their own insufficient understanding of, and unwillingness to partake in game cultures which invoke a new generation of children' (Schott & Kambouri, 2003).

A misconception also exists around the role of interactivity and the perception of its effect on children's creativity and imaginative play. As Squire (2003) points out, contrarians like Provenzo argue that 'children are losing opportunities to develop their creativity by playing video games' (Squire, 2003, p. 10). Others bemoan the notion that kids favour digital games and other computer play over rigorous educational basics (e.g. Healy, 1999; Oppenheimer, 1997; 2003; Postman, 1986; C. Stoll, 1999), a trend that fosters academic laziness and a scarcity of attention. This perspective seldom takes into account the rich learning cultures surrounding digital games, however, and focuses on inflammatory rhetoric about limited laboratory studies that seek to quantify aggression (C. A. Anderson & Bushman, 2001) and attention deficits (Chan & Rabinowitz, 2006) alleged to result from digital game play.

Much of the contrarian literature was written during a particular period when there were well-meaning suggestions that computing technologies could someday take the place of teachers, and the short-sighted thinking that led to governments cutting programs like art, music and physical education while simultaneously accepting

corporate funding to put computers and digital game consoles in classrooms (Oppenheimer, 1997). It is not surprising that this raised the hackles of many thoughtful educators, especially given the fact that there was a shortage of people trained to use the technologies effectively and much of the equipment sat unused. What has emerged is an understanding that these technologies should never be something that students use in isolation, despite the imaginings of the intelligent tutor techno-optimists, but should instead be employed as tools within a learning opportunity that includes the reflective guidance of other people, teachers or peers.

It is also important to keep in mind that this sort of hysteria is typical of most new media. Like every new medium, MMOGs struggle to rationalise their existence to those who consider them frivolous or downright dangerous. At the very least, as Mark Griffiths (1997) says, it is 'time that could be spent engaging in more constructive activities' (p. 233). Researcher Dmitri Williams (2004) has commented on public radio that, 'with each new medium, we worry first about what it's going to take the place of, what it's going to do to us, whether it's bad for our health'. Worrying about the effects of the media on the vulnerable and the impressionable has been a past-time of well-meaning citizens since Victorian novelists penned the first light and supposedly scandalous novels for young women. In all likelihood, it was probably happening long before that, as some upstart 18th century child got his hands on some revolutionary ideas that parents knew could not possibly be good for a young mind. Digital games, and especially online games, incite particular fears, not the least of which is the idea that they must be a waste of time. And despite repeated attempts from some media sources, like the BBC<sup>22</sup>, to rectify this situation, this all-encompassing distraction with what could be bad and sensational about these environments prevents us from focusing on what could be good.

In the following chapters we will explore the history and context behind digital play, its role in learning, and various phenomena that now emphasis learning within networks over learning isolated in individual heads.

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<sup>22</sup> E.g. <http://news.bbc.co.uk/2/hi/technology/4818128.stm>





## **Chapter 2:**

### **An Evolving Understanding of Learning**

Experience is a hard teacher because she gives the test first, the lesson afterwards.

-Vernon Saunders Law

#### **2.1 Introduction**

In recent decades, the degree and kind of developments in technology, and in technological infrastructure, have impacted a vast array of socio-cultural trends and dynamics and capacities for human communication. This has increasingly influenced debates about what it means to learn. In addition, developments in neurological and cognitive science, such as the recent discovery of ongoing brain plasticity throughout the human lifetime, have given learning theorists more physiology-based rationales for their ideas, as well as more sophisticated metaphors by which to imagine the complicated matters of human consciousness, learning and meaning and sense-making. In this chapter I will review the relevant history from educational and learning endeavours, and point out what activities presage particular transformations in both informal learning and our formal education systems.

Although there has been significant progress across a variety of disciplines in understanding how both children and adults learn best, there has been little paradigmatic change in educational circles. Except for behaviourism, most theories of learning have been de-emphasised. Despite salient advances in our understanding of learning that should logically lead to the opportunity to marry the inter-disciplinary thinking from a variety of fields, policy-makers - particularly in the U.S. - have instead reverted to traditional, fundamentals-based models for education that focus on highly standardized, easy-to-measure results within

accepted pedagogical practices. Still, grassroots efforts at innovating learning flourish, both deliberately and spontaneously, often in the most unexpected environments, like the MMOs a few of us researchers have chosen to examine for examples of 21st century learning and co-creation..

For centuries, metaphors describing approaches to education have focused on the notion of filling a student's head with a variety of subjects that needed to be learned, either the miniature adult mind of the preformationist periods or the tabula rasa of Locke's Enlightenment-era environmental movement. The focus is primarily on teaching rather than learning: each method is replete with its pedagogical toolkit, but lacks an explicit description of result beyond the ability to recite facts. This approach to education continues despite the fact that most modern definitions of learning, at least in psychology, demand a change in behaviour as the end result of a successful learning experience. The latest iteration of the approach is the metaphor of a human brain as a computer, structured as a mechanism of inputs, data processing, and outputs. By definition, behaviour changes must reside at a level well beyond simple data processing, yet the simplistic computational paradigm continues to flourish, if only as a reaction to the current states of flux around definitions and potential of learning.

Contemporary ideas about learning still emphasize content and process rather than results that go beyond basic assessments. They address not only the procedural problem of how to lead learners through an operation of constructing their own knowledge, but also whether it is possible to separate an individual's learning from the socio-cultural context in which it occurs. If socio-cultural context is key to learning, then explorations of what it means to learn in social settings take on new dimensions and possibilities. As this chapter will demonstrate, there is a trajectory of progress as the prevailing wisdom becomes more centred on the learner, and increasingly accommodates views about the role and character of an individual's learning in a networked world, and in informal as well as formal settings. This is particularly true because, more and more, learning takes place in self-organising network settings. The existing literature thus goes beyond the narrow focus of the

psychology of education, and, instead, encompasses the traditions and practices of the past and the nexus of a range of disciplines from anthropology to systems theory. The question now is not only how we learn, but also what it is that we need to learn to be successful, capable human beings in a time of accelerated change. Furthermore, there is a fundamental question around whether the locus of learning is really individuals at all, a supposition that we have largely taken for granted till now. The conception of optimal learning conditions has been evolving for quite some time, highly dependent on the environments we found ourselves in. The types of learning that were relevant in the agrarian and industrial environments of the early 20<sup>th</sup> century can no longer be taken for granted in a networked world, but it is not to say that there were not important developments in our collective learning about learning that form the basis of what we understand about the current environments we find ourselves adapting to. In that sense, in order to understand where we are now, it's useful to take a look at where we've come from, and under what conditions prevailing theories were developed, and upon which assumptions about human learning needs they were based.

## **2.2 Learning in the 20th Century: Primacy of the Individual**

Over the course of the 20<sup>th</sup> century, scientists, social scientists, philosophers, and educators all contributed to enormous advances in the way we perceive learning, and to the fact that we even acknowledge learning itself as an important process worthy of study. However, the earliest models for behavioural change were rooted in psychology and focused on a developmental tradition with little emphasis on learning as a phenomenon distinct from cognitive development. And in almost all cases until recently, cognitive development, based on developmentalist traditions dating from Rousseau, viewed learning as a process that took place in individuals' heads; the process could be affected somewhat by outside influences, but took place in a mysterious 'black-box' (Bimber, 1990; Nersessian, 1995). This evolved into a wider interest in meta-cognition, or attempts at an objective perspective on one's

own thinking, but even so was still limited to an individual, internal process (Flavell, 1979).

Some of the most progressive thinking in education, even as judged by today's standards, was taking place in the early 20<sup>th</sup> century, itself a time of enormous social, political and technological upheaval. John Dewey, the 'father of the experiential education movement' (Neill, 2005), was already supporting ideas around lifelong education and the importance of guided experience (Kolb, 1984; C. Rogers, 1994) and contextualized education within a framework of real world activities and problems (Savery & Duffy, 1995; R. Schank, 2001; R. C. Schank, Berman, & Macpherson, 1999). His approach could be considered more philosophical than pedagogical, and like Brazilian activist Paulo Freire's (1970) work later on, his interest in education peripheral to his concern with human progress, democracy, and the idea that unchecked transmission or communication between people is a way of promoting what is good and desirable about humankind (Dewey, 1916). Many of his beliefs were rooted in instrumentalism, a branch of philosophy related to pragmatism, in which questions about the nature of reality and truth were the basis of thinking about learning: if reality and its constructs are continuously in flux, then so too must a human's learning be a process of continuous renewal and re-evaluation (White, 1964). In essence, there is no universal truth to be known, because the truth is always a moving target. To be a good, functional human means being able to cope with such shifting tides, and such capability can only be developed through problem solving and critical thinking activities (themselves the basis of so-called critical pedagogies), not passive memorization of facts out of context.

However, while Dewey's ideas were compelling to a great many educational thinkers and reformers both during his lifetime and since, they never really made it into mainstream education, primarily because they proved difficult to implement, particularly within the context of highly individualistic societies like the U.S. By the mid-century, behavioural models, such as those suggested by B.F. Skinner, proposed a new way of thinking about learning, and provided a new, scientifically-based and

empirically-tested rationale for educational design. Though quite a bit more sophisticated than the work of his behaviourist predecessor Pavlov, Skinner's work suggested that though learners had to act in order to learn, , they were affected by external forces such as rewards and punishment (Skinner, 1976). This work also suggested an objectivist view: that learning was an external force applied to the learner, providing, of course, that the learner was a motivated and willing receptacle (Jonassen, 1991).

The counterpoint to this idea of 'learner as receptacle' is attributed to Jerome Bruner, a theorist who is credited with developing the theory of constructivism, the conception of learning as a largely individual endeavour, but divergent from the objectivist view by suggesting that the learner must construct his or her own knowledge through a process of active participation and reflection (Bruner, 1990b). The educator's role is one of guiding learners towards their own solutions, not providing them answers or encouraging rote memorisation. This approach might involve a process of trial-and-error or other methods of active or discovery learning. In many ways, Bruner's work is a direct challenge to the metaphor of the brain as a processing device, raising some of the trickier questions about consciousness by observing that in the computational model 'there could be no place for mind in such a system – mind in the sense of intentional states like believing, desiring, intending, grasping a meaning' (Bruner, 1990a). While an improvement over previous models that failed to take into account the learner's active role in the process of learning, Bruner's early work still presented the view that learning was an individual activity.

Child development expert Jean Piaget, whose epistemological work informs much educational practice today (at least at the early education and primary school level) also believed that knowledge was not something that could be poured into a child, but that its attainment was the result of a process of active discovery initiated by the child (Jean Piaget, 1969/1970). In fact, Piaget's theories of development suggest that teaching is, in fact, an endeavour with limited efficacy, that children will learn on their own in a spontaneous fashion, and that learning is driven by developmental needs unique to each particular stage in a child's life. Piaget paid little attention to

social learning. Even at the individual level, it has also been noted that not all children achieve the final stage of development, that of formal operations, when they can think and reason at a sophisticated level of abstraction. This oversight may have had to do with the fact that he relied heavily on data collected via the observations of his own children and those of friends, generalising from a very small sample with specific socio-economic characteristics (Sutherland, 1992).

Psychologist Robert Gagne developed a 'conditions of learning theory' that dovetails with the idea of specific developmental needs, introducing a system of levels to characterise the progression of knowledge acquisition, beginning with gaining the learner's attention and ending with the learner transferring knowledge to some immediate need at a later date (Gagné, 1970). Maria Montessori took these ideas to their pedagogical extreme, introducing a system of schooling in which children guide their own learning experience almost entirely, and where external assessments are used sparingly (Montessori, 2002). In all of these systems cognitive development is emphasised over social and emotional development, an oversight that would soon be addressed as the pendulum swung from the primacy of the individual to that of the social, cultural and organisational context for both knowledge and learning.

### **2.3 Learning in the 20th Century: Primacy of the Social Context**

In the 1960s and 1970s, Albert Bandura was the first to tap into anthropological literature to suggest that learning, in a natural setting, relies heavily on observation, and does not involve didactic instruction nor require a tedious process of trial-and-error, as suggested by other theorists. (A. Bandura, 1977) This social learning theory acknowledged that the process of learning must also include 'internal cognitive variables' as the learner constructs his or her observations into a model of how he or she might approach the observed behaviour. (Crain, 1985, p. 176) Perhaps most importantly, Bandura does not suggest that modeling is mindless mimicry, but that 'people induce the general rules or principles underlying particular behaviours, and they then use these rules to generate entirely new behaviour on their own'. (Crain,

1985, p. 185) At its core, social learning theory 'explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural, an environmental influences' (Kearsley, 2003).

Also of note is that around the time of Bandura's work, the communist-era writings of theorist Lev Vygotsky were translated into English for the first time. Rooted in Marxist traditions, Vygotsky's work focused on the idea that human behaviour could not be disassociated from its social and historical context, a view that echoed many of Dewey's contemporary ideas about the importance of the individual only in relation to his or her societal context. (L.S. Vygotsky, 1978; L. S. Vygotsky, 1986) Vygotsky was also ideologically aligned with Marxists like Friedrich Engels, as well as later thinkers like Marshall McLuhan, who believed that human capacity was influenced by technological developments. (Bimber, 1990). Vygotsky extended this conclusion a step further to include 'psychological tools' like semiotics and to the way in which those tools foster schema in which sophisticated cognitive development becomes possible. (John-Steiner & Mahn, 1996) But Vygotsky was aligned with Piaget's developmental theories, and is thus perhaps best known for his 'zone of proximal development:' the concept that children learn best when placed in a social learning situation where, with the help of more knowledgeable or experienced mentors, they are encouraged to reach beyond their current abilities to learn, but not to reach so far as would be unproductive to learning (L.S. Vygotsky, 1978). This idea has now been extended into the pedagogical technique of scaffolding, where tasks are broken into small units easily understood by the learner, who are guided through a process of performing increasingly difficult tasks (Cole, 1985).

The work of Bandura and Vygotsky ushered in a novel view that learning is not simply the individual process of cognition, but rather the result of an array of socio-cultural influences that prepare the individual for learning and influence the manner in which learning is acquired and integrated. This new direction was also suggested by Dewey: 'But when knowledge is regarded as originating and developing within an individual, the ties which bind the mental life of one to that of his fellows are ignored

and denied.’ (Dewey, 1916) While often referred to as ‘social constructivism’ in tandem with criticisms of constructivism (Hodson & Hodson, 1998), these ideas do not contradict Bruner’s theory, per se, but do suggest that the social context is critical to the individual’s construction of knowledge. Still, even Bruner himself, while criticized for his solitary constructivist view, acknowledges the importance of social context in later work in the 1980s and 1990s: ‘A cultural psychology will not be preoccupied with ‘behaviour’ but with ‘action’, its intentionally based counterpart, and more specifically with situated action – action situated in a cultural setting, and in the mutually interacting intentional states of the participants’ (Bruner, 1990a, p. 19).

This idea of the primacy of the socio-cultural context for learning was further explored by social anthropologist Jean Lave, who together with educator and artificial intelligence expert Etienne Wenger, began building upon the work of Vygotsky and Bandura in the early 1990s. Lave’s situated learning theory acknowledged the Vygotskian idea that ‘learning as it normally occurs is a function of the activity, context and culture in which it serves’ (Kearsley, 2003). But in collaboration with Wenger, Lave built further on Bandura’s observational theory, outlining a process called ‘legitimate peripheral participation’ in which people learn in loosely organised groups, through a ‘gradual acquisition of knowledge and skills as novices learned from experts in the context of everyday activities’ (Lave & Wenger, 1991). The key to legitimate peripheral participation is not an explicit transfer of skills, but rather an intrinsic capability and evolved understanding that comes from involvement in a community of skilled practitioners: ‘Learners inevitably participate in communities of practitioners and that mastery of knowledge and skill requires newcomers to move towards full participation in the socio-cultural practices of a community’ (Lave & Wenger, 1991). Or as Bruner explains: ‘a cultural approach emphasizes that the child only gradually comes to appreciate that she is acting not directly on ‘the world’ but on beliefs she holds about that world’ (Bruner, 1996, p. 49), and that those beliefs, in a relativist sense, are the sum total of her socio-cultural context and the influence it wields over the ‘objective’ truths she might encounter but never be able to engage with outside of her subjective reality.



The basic premise of social constructivist thinking is the idea that since some knowledge may be socially constructed, all knowledge must be, and that knowledge is in some way impossible to untangle from its socio-cultural context. The philosophy of such critical rationalists as Karl Popper intersect with this view but also challenge it: there may be a number of versions of the world based on varying perspectives, but there is an objective reality that can be separated from individual subjective understandings (Percival, 2005). Paul Boghossian, professor of philosophy at New York University, has taken up this assertion in a recent book *Fear Of Knowledge: Against Relativism And Constructivism*, arguing Popper's stance that there is a rational world independent of the phenomenological view provided by human perception. But if we are to accept the Popper/Boghossian view that there is an objective reality to be learned, at least in the realm of science and similar areas of study, then it could be that such objective reality may be more accessible via a thorough understanding of the subjective context from whence one approaches a topic – to ignore the need for a basic layering of the objective and the abstract atop the tangible and relevant means presenting information out of a context that can be understood by the learner.

## **2.4 Learning in the 20th Century: Primacy of the Organisation**

This shift to thinking of learning as a social and therefore community-based activity, led to a whole new set of ideas about organization-based thinking fuelled by an ongoing interest in corporate knowledge management, which up till this point had also largely focused on the idea of a large corporate brain, full of 'explicit', documented and repository-based knowledge, and 'tacit' knowledge, resident in people's heads, leveraged in appropriate work-based contexts, and readily available in behemoth repositories of corporate knowledge (Baumard, 1999; Eraut, 2000; B. Johnson, 2002; Stenmark, 2000; Von Krogh, Ichijo, Nonaka, & Ichijo, 2000). However the collection of corporate knowledge turned out to be a trickier proposition than anticipated, and corporate knowledge management efforts soon turned in their

efforts to a variety of less organized methods to harness knowledge including the use of narrative storytelling (Denning, 2000; Linde, 2001; Swap2002), and an emphasis on fostering knowledge-sharing groups (J. S. Brown & Duguid, 1991).

Lave and Wenger's anthropological observations on learning turned out to be both inspirational and instrumental in many ways, but primarily in terms of a useful meme, the 'community of practice' (J. S. Brown & Duguid, 1991; Lave & Wenger, 1991; Etienne Wenger, 1998; E. Wenger, 1999; E. Wenger, McDermott, & Snyder, 2002). This term describes the loose collaboration between members of informal learning groups engaged in 'legitimate peripheral participation,' or apprenticeship via semi-participatory observation, that they described in their 1991 book *Situated Learning* (Lave & Wenger, 1991). Also referred to as 'affinity spaces' (Gee, 2004), communities of practice are characterised by 'joint enterprise', 'mutual engagement' and a 'shared repertoire' of community resources or work artefacts (Wenger, 1998). The key differentiator between communities of practice and other types of organisations is that 'membership is based on participation rather than on official status,' and that an individual becomes a member of the community through contribution, not as the result of some attribution from their position within an organisational hierarchy (Wenger, 1998). In addition, legitimately peripheral participation implies that learners have 'broad access to arenas of mature practice' and are engaged not only in learning activity, but in 'productive activity' (Lave & Wenger, 1991). In educational circles, communities of practice are referred to as 'communities of learning' (A. L. Brown & Campione, 1990; Meier, 2003; Rogoff et al., 1998; Tomlinson et al., 1997), as a way of acknowledging the socio-cultural significance of learning activity, without going so far as to say that learners are engaged in 'practice' in the occupational sense.

Knowledge managers in a variety of professional organizations, frustrated by efforts to create repositories of knowledge, attempted to formalise the idea of the community of practice in a variety of settings. However, there are various problems with this approach. A community of practice is a social system that flourishes naturally and authentically when left to emerge spontaneously. In addition,

knowledge is not something that is housed statically in a repository; rather it is created as an active process in individuals and in groups. Thus, these attempts met with only occasional success, and often at the expense of authenticity. In a number of settings, particularly in adult education (Courtney, 1992; Stacey, Smith, & Barty, 2004), the concept of a community of learning became similarly tantalizing to many educators, and a variety of attempts to formalise their existence were made (e.g. Barab et al., 2004; Meier, 2002; Palloff & Pratt, 1999). The underlying assumption of this first generation of knowledge management (McElroy, 2002) approach, is that managing knowledge was a process of tapping into knowledge that pre-exists, and 'doesn't account for how knowledge is created, or produced, or discovered' (Firestone, 2004). Communities of practice were initially envisioned more as mechanisms for the flow of pre-existing information than as dynamic groups that facilitated the ongoing development of organisational intelligence, now the heart of second generation knowledge management efforts. The idea that the group itself might learn was fundamentally missing, an oversight addressed by a movement to place a community, enabled by software, at the centre of organisational learning activity: knowledge management ceases to be about repositories and more about managing a 'social process that can be enabled with software solutions' (McElroy, 2002).

Despite progress away from an idea of 'organisation as receptacle', a tension lies between the notion of legitimate peripheral participation as a mechanism for learning and the methods of learning typically employed in school or formal occupational settings, even when mediated by such progressive constructs as communities of learning. Lave and Wenger contend that 'the way to maximize learning is to perform, not to talk about it' and their studies clearly indicate a preference for traditional occupational settings in this regard (Lave & Wenger, 1991). They explain this perspective through the observation that 'locating learning in classroom interaction is not an adequate substitute for a theory about what schooling as an activity system has to do with learning'. Rather, they believe that 'other kinds of communities and the forms of legitimate peripheral participation therein' hold the key to understanding learning (Lave & Wenger, 1991). As a result

of this inherent tension, studying social learning phenomena in engineered environments like schools or corporate training classrooms is problematic, even when they take on the form of a community of practice or learning. The types of social learning found in most formal settings are far too heavily prescribed and often rely on artificial group dynamics like the assignment of individuals to groups and expectations as to the duration and manner of interactions. To accompany traditional approaches like classroom instruction with a side-dish of community-based learning may seem like a good idea, but is often limited in its efficacy to the constraints of the content-oriented task at hand, and to the challenges of negotiating group roles within a rigid structure.

The approach taken in many formal educational environments mirrors our expectations of the way people might collaborate to learn in the organisations we are familiar with. Most formally-recognised organisations are based on artificial structures that are typically directed and structured from a top-down view. However, from a knowledge management and creation perspective, it is clear that the most successful knowledge sharing activities stem from bottom-up approaches, i.e. self-organisation around productive activities that motivate participants to share knowledge in order to get the job done. In a learning organization (Coopey, 1995; Garvin, 1993; Kline & Saunders, 1993; Senge, 1990; Watkins & Marsick, 1993), the community should be at the core of activity and be allowed to devise its own social hierarchies and access to shared resources in a self-organised, emergent fashion based on whatever needs are identified as work progresses.

## **2.5 Learning in the 20<sup>th</sup> Century: Primacy of the Network**

Living systems, complexity theory, and principles of emergence and self-organisation have begun to wield a significant influence over the study of learning (Allee, 2002; Capra, 1996; Dawson, 2004; McElroy, 2000; Sawyer, 2005; Snowden, 2003), illuminating many areas in which learning occurs naturally, without any centralised or pedagogical direction. In many ways, this echoes to the assertions of the likes of

Dewey, Piaget and Montessori that learning is an activity that happens spontaneously, both with and without external input or guidance. It is also likely that learning practices developed before the advent of modern communications technologies, are necessary, but not sufficient, elements of the learning process. For instance, tertiary educator George Siemens looks specifically to the Internet as a rich venue for exploring 21<sup>st</sup> century learning processes enabled by a previously impossible amount of human interconnectivity. Siemens' ideas, while unsubstantiated by any formal study, posit that that 'technology has reorganized how we live, how we communicate, and how we learn' and that 'learning needs and theories that describe learning principles and processes should be reflective of underlying social environments' (Siemens, 2004). In accordance with constructivist and social constructivist approaches, he believes that learning itself is a 'lasting, changed state brought about as a result of experiences and interactions with content or other people'. Based on his personal observations, he finds constructivism and social constructivism both lacking as a result of their emphasis on the individual and also because of the collective oversight of the fundamental principle that both 'the organization and the individual are learning organisms' (Siemens, 2004). The crux of Siemens' proposal, leading to his newly-coined term 'connectivism' is that learning is a process of forging connections between disparate bits of information stored both in our brains and elsewhere, signaling the 'integration of principles explored by chaos, network and self-organization theories' (Siemens, 2004).

As Verna Allee pointed out in 2002 in her book *The Future of Knowledge: Increasing Prosperity through Value Networks*, possessing knowledge within a network context in the 21<sup>st</sup> century involves being part of a whole new system of value creation:

It is entirely possible to have business relationships with almost no intangible value being exchanged or generated. However, enduring business relationships are rarely built solely on tangible transactions, especially when dealing with sophisticated or complex products and services. The value network view demonstrates that knowledge and intangibles build the critical business relationships and create the environment for business success. We

do not so much build a business but rather grow or 'weave' a web of trusted relationships. (Allee, 2002)

It is these trusted relationships that allow the network to flourish, and for knowledge to flow efficiently to and from various nodes, even the most deeply nested and traditionally well-hidden. Although many of these ideas are quite exciting, particularly within the context of burgeoning online spaces, they have been largely unexplored within the context of formal research. For while there is a substantial body of anecdotal evidence in the various knowledge management case studies, and hyperbole around Web 2.0 and other self-organising efforts to build out content on the Internet, the specifics of how and why this occurs have been largely overlooked. For instance, there is an enormous opportunity to explore the specifics of how relationships are built and maintained in a network, what critical skills and literacies are involved, what motivates individuals to participate, and how the collective capacity evolves as the result of these efforts.

## **2.6 Learning in the 21st Century and Beyond? The Learning Ecosystem**

We may find that future theories of learning do not attempt to separate learning from its individual, immediate social/organizational group or larger societal or network context, but instead sees it as an amalgamation of the various pieces. The next step may well be consideration of a learning ecosystem (Laszlo, 2001; Resnick, 2002b): an assemblage of individual intelligences that learn and operate well enough on their own (individual), whose specific profile is affected by the environment in which it operates (socio-cultural), but coalesce into a larger collective intelligence when connected to each other (network). To ignore the validity of individual or group learning, just because of an awareness of the larger picture learning taking place across the network, is to miss an important piece of the puzzle. Without individual contributions there is no organisational intelligence, and without explicitly recognised and authoritative individual contributions, there is no deviating from norms established by the collective:

This state of affairs suggests a definition of the role of the individual, or the self, in knowledge; namely, the redirection, or reconstruction of accepted beliefs. Every new idea, every conception of things differing from that authorized by current belief, must have its origin in an individual (Dewey, 1916).

But it is perhaps the French anthropologist Pierre Levy (1997) who explores these ideas to their murkiest depths in his book *Collective intelligence: Mankind's emerging world in cyberspace*. Individuals learn individually, but their learning is inextricably linked to the learning of the communities and organisations to which they belong. More than just a network of interconnected nodes, collective intelligence suggests a system, not unlike an ant colony, in which each element makes a contribution to the overall intelligence of the system (S. Johnson, 2002; Levy, 1997; Senge, 2000). This idea has been popularised in the work of such authors as James Surowiecki, author of *The Wisdom of Crowds*, as he explores such perplexing phenomena as the ability for a group to uncannily pick the correct number of jellybeans in a jar (after analysing pooled responses), when any one individual is incapable of doing so (Surowiecki, 2004). Levy takes the position that the connections between nodes are more important than the individual contributions. This is a particularly liberating idea within the context of social equality: even the weakest member can make a contribution to the collective, providing the link is there. Put differently, the number of individuals available for thought is less significant than the quantity and quality of interconnecting pathways between those individuals. In a well-connected world, knowledge can be found and pointed to in the most unexpected places; in the words of David Weinberger, 'hyperlinks subvert hierarchy' (Locke, Levine, Searls, & Weinberger, 2001). Hierarchical control of information flow is replaced by a natural system where the network itself determines what is valuable and what is not, but never makes that assumption for every member, instead allowing myriad spheres of knowledge to propagate according to a range of needs and interests.

Beyond basics of network theory and the connections between individuals, the learning ecosystem metaphor also suggests a feedback loop in which individuals are further motivated to learn by the collective learning that takes place. As Levy explains, individuals in knowledge space are changed 'through their interaction with diverse communities... undergoing a process of permanent metamorphosis (or apprenticeship)' (Levy, 1997). As each node, each individual, increases in intelligence, so too does the intelligence of the system, which in turn inspires greater intelligence in the individual parts of the system, resulting in a recursively never-ending phenomenon. Social theorists like Baudrillard might consider this a dystopian view: society is reduced to an opaque mass as the notion of the collective obviates, or at least demands primacy over, the individual (Baudrillard & Lotringer, 1988). But the learning ecosystem is more a suggestion that those two aspects can be balanced: a universe of fully formed individuals whose contributions naturally coalesce into a whole without losing their unique identities in the process. As much as an individual's learning cannot be separated from its context, in an interconnected world, individual learning is a necessary element of learning at a group or organizational level:

The starting point of connectivism is the individual. Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network and then continue to provide learning to the individual. This cycle of knowledge development (personal to network to organization) allows learners to remain current in their field through the connections they have formed. (Siemens, 2004)

Similarly, the relationship between teaching and learning is neither didactic nor hierarchical, but symbiotic. Teaching and learning are practices within a learning system, but in terms of overall knowledge acquired by a group or organisation, the distinction between the two is often imperceptible. Furthermore, these activities contribute to a community's overall intelligence, allowing for a form of distributed cognition (Cole & Engestrom, 1993; Hollan, Hutchins, & Kirsh, 2000b; Y. Rogers & Ellis, 1994), 'a socially and materially distributed phenomenon located not merely



within the head, but also and more crucially, across systems of activity in communities of practice' (Steinkuehler, 2006). Actor-network theory (Latour, 2005) suggests a mechanism by which this process occurs: actors are animate or inanimate entities that take on roles within a network. These roles are fundamentally interdependent, as in an ecosystem:

The actor network is reducible neither to an actor alone nor to a network. Like a network it is composed of a series of heterogeneous elements, animate and inanimate, that have been linked to one another for certain period of time. ... An actor network is simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform what it is made of (Callon, 1987, p. 93).

Barab et al (2001) use an ecological perspective to describe their contention that learning is an activity and activity is learning. Since learning is situated in activities that take place in physical environments, learning cannot be separated from this context. However other educational researchers have used the ecological metaphor, but taken a more limited view, suggesting that the learning ecosystem is comprised of the people and resources that surrounds an educational institution, i.e. parents and libraries, that might contribute to the educational sphere of influence an institution might have (e.g. Resnick, 2002a; L. Stoll & Fink, 1996) . It does not readily accommodate the perspective that the ongoing learning of individual learners within the system might impact the organisations that set out to serve them. Yet an ecosystem is an interconnected, indeed inter-dependent, system; the various components act not only as resources for the other components, but also affect their fundamental character: humans interact with the environment, the environment encourages them to adapt, but so too do their activities change the environment, resulting in an ongoing cycle of change and adaptation. An effective ecosystem hinges on the adaptability of the organisms and their ability to function as an ecological unit, requiring readiness to change and learn from all quarters. This is precisely the problem that faces us: learners have adapted to the needs of the

digital environments in which they spend a great deal of their time, yet our formal educational systems have not yet changed to accommodate this shift.

## **2.7 What to Learn for the 21st Century**

The opportunities provided by modern communications technologies have brought about a transformation that is readily apparent in day-to-day life across the developed world. They have taken us from the industrial revolution to the information age, and now hold the promise of a knowledge community made up of interconnected individuals who are fluent in the intricacies of interactions within and beyond their knowledge networks: individuals that can access the information they need, when and where they need it. The world is increasingly more complex and that complexity brings rapid change that is at once unpredictable and nonlinear. The set of skills we learned in school can no longer last a lifetime, and so the focus must shift from how we learn to what we need to learn, and how we learn to learn, either formally or informally. Success depends on being mentally agile and willing to embrace new ways of doing things. This factor is increasingly mandatory in light of the challenges we face on the world stage. Author Thomas Friedman (2002), in his book *The World is Flat*, contends that failure to develop such capability could irreparably damage developed economies that ignore the greater propensity of developing countries to make moves in this direction. We have seen this at work in the economic travails of the United States, for instance, relative to its less wasteful, more flexible global neighbors. Developing nations like China and India are emerging as economic superpowers (despite their problems handling domestic issues like over population, human rights, and energy needs).

Connectivism is very much a learning theory for these new challenges in the 21st century and addresses the possibilities inherent in the global networks that are becoming increasingly more ubiquitous. What is imminently clear is that individuals require a different set of skills made mandatory by the complexity and pace of life and work in the face of amazing new communications technologies. And these

technologies have made networks not just possible, but a part of our reality. Dr. Andy Clark, former director of cognitive science at Indiana University, is described in a recent Times Online article as having the following view:

We should already regard ourselves as cyborgs. Our thinking no longer goes on purely inside our heads... it is intimately bound up with the tools we use. He illustrates this with the example of people using software to trawl the web for news, music, information and goods personalised to their tastes. Where do the 'thinking' and analysis stop? As the interfaces between people and computers become more sophisticated, he believes, 'It will soon be harder than ever to tell where the human user stops and the rest of the world begins. (TimesOnline.co.uk, 2006)

In neuroscience circles, there has been a shift away from reductionist approaches focused on minute aspects of the brain, or depictions using a computational metaphor (J. A. Anderson & Rosenfeld, 1988; Frank, 2000; O'Reilly & Munakata, 2000; O'Reilly et al., 1999) to thinking about it as a holistic processing mechanism, a neural network (Anthony & Bartlett, 1999; Gallant, 1993; Haykin, 1998; Quartz, 1993) comprised of connections that do not accommodate explicit input/output operations but functions by allowing humans to develop predictive, pattern-recognising (Ripley, 1996) mental models of the world:

If you look at the history of big obstacles in understanding our world, there's usually an intuitive assumption underlying them that's wrong. In the case of the Solar System it was intuitively obvious that the Earth was at the centre of the Solar System and things moved around us, but that just turned out to be wrong. ... And it intuitively seems correct that the brain is just some sort of computer—it just seems natural. ... But it has undermined almost all of our work to build intelligent machines and understand thinking. It's just wrong ... the brain isn't like a computer at all (Hawkins, 2005).

Many of Hawkins' ideas are quite well aligned with Piaget's theories of development. He suggests that learning is often a process of layering knowledge; our ability to

predict is based on previously learned knowledge and skills in which we have achieved a level of automacity (Hawkins, 2004). These predictive tendencies of the brain are echoed in another emerging field, rapid cognition, popularised by author Malcolm Gladwell in the 2005 book *Blink*. Rapid cognition, as a field of psychology, explores how human experiences contribute to these models of the world and separates thinking into conscious and unconscious processes, mirroring emerging interest in the apparent dichotomy between the functions of the high intelligence parts of the brain like the neo-cortex versus the emotional/survival responses rooted in evolutionarily ancient, reptilian parts of our brains like the amygdale, which generates and controls emotion. Gladwell articulates a position that our brains have become so efficient at integrating a huge amount of data and perspectives into a highly efficient, but largely unconscious, database that many of our responses to stimuli from the outside world come unheeded in the form of snap decisions and are, in fact, largely uncontrollable by our conscious brain. This phenomenon is referred to by Gladwell and others as the 'adaptive unconscious' (Gladwell, 2005; Wilson, 2002). Learning and reflection become key to the process of dealing with the undesirable by-products of this capability. But it also becomes a harnessable benefit as we learn to leverage what is essentially ongoing background processing. As Gladwell (2005) notes, 'often a sign of expertise is noticing what doesn't happen', and noticing what is missing means having a robust, predictive model in place.

Thinking of the brain in a larger, more integrated way than simply a collection of neurons and synapses involves a fundamental shift from mechanistic, linear thinking to thinking that has a holistic sensibility (John C. Beck & Mitchell Wade, 2004; Pink, 2005b; Siemens, 2004). The necessity for this approach comes from the problem that people are 'so focused on the mechanics and the process that they never [look] at the problem holistically. In the act of tearing something apart, you lose its meaning'. (Gladwell, 2005) Some also suggest that our increased proclivity towards multi-tasking, especially among so-called 'digital natives', creates a brain that is much more readily geared towards parallel processing (Bechtel & Abrahamson, 1990; Restak, 2003) and random access versus step-by-step approaches to amassing and accessing knowledge (Prensky, 2001).

Regardless of the root causes, a new value system is emerging in our work cultures that elevate the capabilities of the broad, dynamic, generalist thinker over the deeply specialized, linear approaches:

The future belongs to a very different kind of person with a very different kind of mind – creators and empathisers, pattern recognisers and meaning makers. These people – artists, inventors, designers, storytellers, caretakers, consolers, big picture thinkers – will now reap society's richest rewards and share its greatest joys (Pink, 2005b, p. 1).

In *Got Game: How the Gamer Generation is Reshaping Business Forever*, authors John C. Beck and Mitchell Wade (2004) describe this capability as a characteristic native to many gamers: the tendency to 'go meta' or view problems or situations from a variety of angles, allowing for a range of creative solutions that might not be obvious to those limited to particular points-of-view.

It also means developing an ability to place one's specific knowledge and expertise in context to that of other nodes on the network, what Levy (1997) calls a new anthropological space: a knowledge space with its own culture and values, and to develop the relationships that allow that knowledge to flow freely: 'relationships are the future of society and business, and rich knowledge exchange will be at their heart.' (Dawson, 2004) The network is built on social bonds, not artificial hierarchies that demand, typically with limited efficacy, cooperation between members. So a vastly important aspect of networked learning and supporting the health of the learning ecosystem is the development of socio-cultural literacies that allow one to function effectively in a group and encourage knowledge to flow unheeded. Indeed the ability to recognize and pass on a request for knowledge or expertise is more important than having the knowledge itself. The ability to find information on the network takes precedence over having possession of the information. It is the skills of knowing, if only fuzzily, what one doesn't know, but knowing how to find out; each individual brain can then leverage the collective.

The rapid pace of change and the need for continuous cycles of learning puts the

ability to adapt and learn rapidly and efficiently at the centre of today's competencies. But it also means casting an eye towards the larger network, constantly re-evaluating one's contributions in relation to the network as a whole, and gaining either social capital (Coleman, 1988; Lin, 1999; Putnam, 1995) or, in the case of driving business via knowledge sharing, explicit economic value in the process:

Participants must understand network principles so they can manage their own inputs and outputs in ways that support the vitality of the whole value network. Every individual must learn the art of negotiated self-interest. In order to negotiate intelligently, people need ways to identify and leverage the value gained from every tangible or intangible they receive. Further, each participant must find ways to enhance or increase the value of what they are contributing to other participants, and to the value network as a whole (Allee, 2002) .

Improving one's social capital will help determine how quickly and easily one can access information and individual nodes of expertise on the network. A systems thinking (Senge, 1993) approach is valuable: this means contextualizing oneself by narcissistically considering how one's contribution is perceived by others. This might also mean, for example, showing the network data about where one has been and what one has seen (Davenport & Beck, 2001; Rubel, 2005). These clusters of attention data make connections between and among elements of the network explicit; our individual strength will be based on our position (in terms of how quickly we can access information and nodes) and status (if and how quickly our needs are responded to) within the network.

## **2. 8 What's Next in Learning?**

Although it seems like we have made great strides following a natural evolutionary path that focused on the individual's role in learning to that of specific social and organizational contexts, to finally the much larger context of society at large, in a

way it is clear that we have merely come full circle. In *Democracy and Education*, Dewey notes that education is the transmission of wisdom from one person to another, from one generation to the next, and that this transmission forms the entire basis of what we call society (Dewey, 1916).

Our path to understanding learning has been diverted by the temptation to focus on stuff to be learned, but the overall goal should be finding ways in which transmission can happen smoothly and naturally, allowing best practice to flow unchecked according to whatever parameters make sense within myriad contexts. To have its best impact, the focus of learning needs to be on how we learn best collectively, and how individual endeavours can support this learning. This approach does not privilege the collective over the individual; it only suggests that we are a system of learners to be (self) managed, with network paths to be (self) optimized, and an overall system health to be (self) monitored. Within a healthy ecosystem, life flourishes, all niches are filled, and the result is a system, an intelligence, that emerges spontaneously and is much greater than the sum of its parts. Learning at both the individual and collective level, in this context, fosters increased sophistication, complexity, and evolution across the entire system.

No one can deny that human societies have changed immensely in the last century, and arguably the digital revolution of the last few decades is spurring this change on even more quickly. Our institutions for learning need to track the changing notions of what learning is for and how to best foster learning. In the early 21st century, for instance, in a time when we are increasingly more connected to each other and to content within the network, what is it that people really need to know? What knowledge and skills do they need to carry in their own heads, and what can simply reside elsewhere? These are the key questions that confront us as we craft learning theories and understand the cultures of learning that flourish naturally and that we attempt to engineer artificially. What is relevant? Perhaps it is a matter of looking around us to where people are learning already. In the next chapter we will examine how trends in learning are now controlled by learners themselves, and how learning and play are colliding in digital spaces.

## **Chapter 3:**

### **Play, Participation and Learning**

You can discover more about a person in an hour of play than in a year of conversation.

-Plato

#### **3.1 Introduction**

Although there is considerable interest in the idea of using games for learning, success in this area has proven elusive. Clearly it is challenging to take established curricula developed for other media types and attempt to fit it into an open-ended digital game context where content is secondary to experience. Digital games are very effective for learning, but they represent a type of productive play that does not fit neatly within established educational paradigms. Furthermore, play and learning take on new dimensions within the context of an increasingly participatory culture in which traditional boundaries between producers and consumers, as well as teachers and learners, begin to blur. In participatory contexts, learning is a systemic activity where the contributions of the individual contribute to the larger collective intelligence, and learning is often a by-product of play or creativity. Attempts to use games for learning must take this broader context into account and acknowledge the shifting expectations and emerging literacies of learners steeped in a digital culture that introduces and reinforces new standards for play and participation. In this chapter we will examine how play has become fundamental to learning, both in formal and informal contexts.



With human cognitive and social development no longer confined to activities in physical reality, the prospects for learning within emerging digital spaces have become increasingly compelling to educators and policymakers. There has been particular interest, particularly among distance educators, in online communities of practice/learning (e.g. Gee, 2003, 2004; Kim, 2000; Palloff & Pratt, 1999; Preece, 2000; J. Seely-Brown & Kahan, 2004) and other mechanisms for participation and collaboration in online spaces, including virtual reality environments (Emerson & Revere, 1994; A. Johnson, Moher, Ohlsson, & Gillingham, 1999)- though as Edward Castronova (2005) points out, the latter has evolved such that ‘the dominant paradigm for virtual reality is not hardware but software’. In addition, there is increasing academic and mainstream interest in entertainment spaces like digital games as sites for spontaneous learning motivated by play, particularly when such spaces can be co-opted for explicitly educational endeavours (J. C. Beck & M. Wade, 2004; Gee, 2003, 2004, 2005; Prensky, 2001; Squire, 2003). There is a sense that understanding the character and situations in which learning occurs naturally might be an imperative; the ‘consensual hallucinations’ (W. Gibson, 1984; Rushkoff, 1996) that people are creating through participation and play in collaborative, digital spaces almost certainly represent a critical facet of our understanding of the future of learning and its implications for formal education.

In the last few years there has been a line of inquiry emerging very specifically around the area of digital games and learning. In his widely cited first book, Prensky both provided a new term, digital game-based learning, and offered tremendous hope to educators in despair about their inability to motivate 21<sup>st</sup> century learners, particularly those members of the so-called ‘MTV generation’ and later. This effort has almost been too successful: no less than a frenzy has ensued as games are increasingly considered as a way to coat educational ‘broccoli’ in enticing multimedia ‘chocolate’ (Adams, 2005), making the unpalatable more appealing to both kids and adults. Or as Prensky puts it: ‘the true 21<sup>st</sup> century learning revolution is that learning, training and schooling – is finally throwing off the shackles of pain and suffering that have accompanied it for so long’ (Prensky, 2001, p. 14). The ‘serious games’ movement, an effort spawning a half a dozen or more conferences a year

and a significant media buzz, is attempting to capitalise on this hope, but with mixed results leading to criticism that the whole concept has been perilously over-hyped (Frasca, 2006). It is likely that the problem is not the concept that games can be a powerful force in learning, but rather that there is an immature understanding of what it is that makes game environments so promising for learning, and for what types of learning this approach might be best-suited.

### **3.2 Play Does Not Necessarily Equal Fun**

Fixating too much on the 'fun' aspect of gaming has a lot of people scrambling to net a slippery red herring. The fact that the movement associated with digital games for learning evolved uncomfortably from 'edutainment' to 'serious games', both terms that are clearly rather awkward oxymorons, reflects an inherent tension in the way we view play and its possibilities for learning. Attention to such a basic human (and indeed, animal) activity as play cannot be trivialised, despite our collective and seemingly pervasive discomfort with the notion that play is fundamentally antithetical to work. This has led us to a point where we are both fascinated and frightened by the possibilities of using games, and therefore embracing play, within a rigorous educational context. Within the study of learning, in particular, games have been plagued by exceptionalism, leading to a phenomenon in which they 'have been sold short by their unexamined and seemingly unbreakable conceptual association with play' (Malaby, 2006a). Solving this problem may be, as Malaby suggests, a matter of disassociating games from play. Or it may require a huge shift in our normative approach to play in general. Taylor (2006) notes that its association with 'the term 'fun'... cedes the discussion of the pleasures of play to an overly dichotomized model in which leisure rests on one side and labour on the other' (Taylor, 2006).

To overlook play as a critical component of the human experience is to miss an enormous opportunity to leverage an inherent human capability for learning that is also a drive rooted in basic survival strategies. Brian Sutton-Smith underscores his belief that play is a fundamental human need with the supposition that 'the opposite

of play is not work, it's depression' (Sutton-Smith, 2004). Play is not an optional leisure activity, but a biological imperative that supports our cognitive and emotional well-being, occupying an important role in our development as humans. As Dibbell puts it, 'play is to the 21st century what steam was to the 20th century' (Dibbell, 2006). In other words, play is a productive phenomenon and as such, a harnessable resource: play can be explicitly leveraged for production, as in the case where South African children's play on a merry-go-round has been harnessed to pump water (Costello, 2005), or in the case of the ESP game (Fig. 2) in which players volunteer to provide meta-tagging services for images by playing a web-based game (Von Ahn, 2006). Play also serves as a motivating force, but it is most powerfully an apparatus for allowing experimentation outside of limitations of physical practicality or other opportunity barriers, e.g. the difficulty of training for natural disasters, that arise from needing to develop competency in an area that is highly dependent on experiences that are not frequently encountered. Harnessing the human predilection to play and learn from both real and virtual experience may be a necessity within contexts where relevant and directly applicable activity, a mainstay of the adult learning process (Knowles, 1980), is missing. Play and games in particular, can create an authentic learning context by simulating experiences that are inconvenient or impossible to produce using other means (Galarneau, 2005). Furthermore, games can create fertile ground for tying concepts to an experiential activity, preventing the common problem that 'meaning is dependent on the internal structures and relations among characteristics of the concept itself as opposed to relations with the environmental conditions that the concept was meant to characterize' (Barab et al., 2001, p. 7).



Figure 8. The ESP game (<http://www.espgame.org>)

The game matches anonymous players and creates a game environment in which they are challenged to agree on words that might describe an image. This data is subsequently used to create a repository of image meta-data, an invaluable tool for image searching. ‘Taboo words’ are words that have been agreed upon by players in previous game sessions.

Much of the recent confusion regarding play and its role in human production comes from our collective observation that there is much work that feels like play and indeed, especially in the realm of digital games, much ‘play’ that looks to many observers strangely like work. The leveling treadmill in many role-playing games, also referred to as ‘the grind’, is a case in point. As Taylor notes in *Play Between Worlds*, ‘the simple idea of fun is turned on its head by examples of engagement that rest on efficiency, (often painful) learning, rote and boring tasks, heavy doses of responsibility, and intensity of focus’ (Taylor, 2006). In this sense, play is not a discrete activity as defined by theorists like Caillois (1958) and Huizinga (1945), so

much as a mode of experience (Malaby, 2006b) characterised by enjoyment of the pursuit of game goals, but more akin to a description of flow (Csikszentmihalyi, 1990) than to a simple description of one engaged in leisure activities completely disassociated from work. Play, as a state, is simply an opportunity for unfocused, open-ended experimentation, often in an environment that has been designed to allow for a range of experiences, some prescribed, but some almost entirely emergent. It is no longer the case, if indeed it ever was, that play is 'carefully isolated from the rest of life' (Caillois, 1958, p. 6). As such, motivating people to learn can simply mean affording them a context in which productive activity feels like play and allows for the cognitive and creative freedoms associated with open-ended experimentation. With respect to this alternative framing, rather than to say that one is 'at play' it would be more descriptive to say that one is 'in play', that is, one is carving out a space in which experimentation is safe and possible – this state is non-linear, unfocused on a particular end result, and allows for creative thinking, innovative problem solving, and shifts in perspective (Dansky, 1980; Dweck & Elliot, 1983; K. H. Rubin, Fein, & Vandenberg, 1983).

These shifts in perspective may be the more salient features of this sort of open-ended experimentation, allowing gamers to 'go meta', or view situations or problems from various angles (J. C. Beck & M. Wade, 2004). For example, unexpectedly viewing the immunological system of the human body from the perspective of a virus, as in the game Replicate, might give one a whole new take on a situation: in the words of plant geneticist Barbara McClintock, 'a feeling for the organism' that forms the basis of an intimate knowledge of a phenomenon, allowing one to pivot one's mind to view the issue from myriad directions (Keller, 1983). This is an 'epistemic frame' that can be written into a game 'as a mechanism through which students can use experiences in video games, computer games, and other interactive learning environments to help them deal more effectively with situations outside of the original context of learning' (Shaffer, 2006). Furthermore, once this state or frame has been experienced, it can be recalled at will, even outside of an explicit play activity. Extending the virus example, a doctor who has played a virus

may continue to have the ability to think like one, simply by recalling the experience of shifting to that point-of-view.

### **3.3 Play is a Critical Skill**

In much of the literature about creativity, a longed-for fuel of the knowledge economy, there is an acknowledgment that creative thought is generated in the spaces between productive activity: flashes of insight often come while thinking about other things entirely, or while engaged in such seemingly innocuous activities as tossing a ball, showering, or dreaming (Root-Bernstein & Root-Bernstein, 2001). Depth psychology models of the creative process illustrate the argument that creativity requires an ‘incubation period’ before the “eureka moment” in order to counter the power of logical thought and create new connections between seemingly unconnected materials and ideas (Noy, 1979). For this purpose, play is only antithetical to work inasmuch as it is a deliberate step away from focused, productive activity into a space where limitations are relinquished and anything is possible. In sync with the exhortations of various pundits who fear that developed countries are losing their creative edge relative to the rest of the world (e.g. Friedman, 2002; Pink, 2005a), Jenkins et al. consider the ability to play to be a critical literacy that must be shepherded by educational institutions: developing ‘the capacity to experiment with one’s surroundings as a form of problem-solving’ as children ‘learn through play the skills they will apply to more serious tasks later’ (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006).

MIT and the McArthur Foundation have explicitly articulated a list of new media literacies, developed via participation in digital spaces, and activities including social media and gaming:

*Play — the capacity to experiment with one’s surroundings as a form of problem-solving*

*Performance — the ability to adopt alternative identities for the purpose of improvisation and discovery*

*Simulation — the ability to interpret and construct dynamic models of real-world processes*

*Appropriation — the ability to meaningfully sample and remix media content*

*Multitasking — the ability to scan one's environment and shift focus as needed to salient details.*

*Distributed Cognition — the ability to interact meaningfully with tools that expand mental capacities*

*Collective Intelligence — the ability to pool knowledge and compare notes with others toward a common goal*

*Judgment — the ability to evaluate the reliability and credibility of different information sources*

*Transmedia Navigation — the ability to follow the flow of stories and information across multiple modalities*

*Networking — the ability to search for, synthesize, and disseminate information*

*Negotiation — the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.*

One of the unique functions of play is that it encourages us to inhabit cognitive and emotional spaces that allow exploration of various moral and ethical dimensions. It obliges us to experience phenomena from various points of view, both physical shifts in perspective as well socio-psychological ones. Huizinga alluded to the idea that play is an opportunity to experiment with various states of being both within and outside of accepted norms: 'Play lies outside the antithesis of wisdom and folly, and

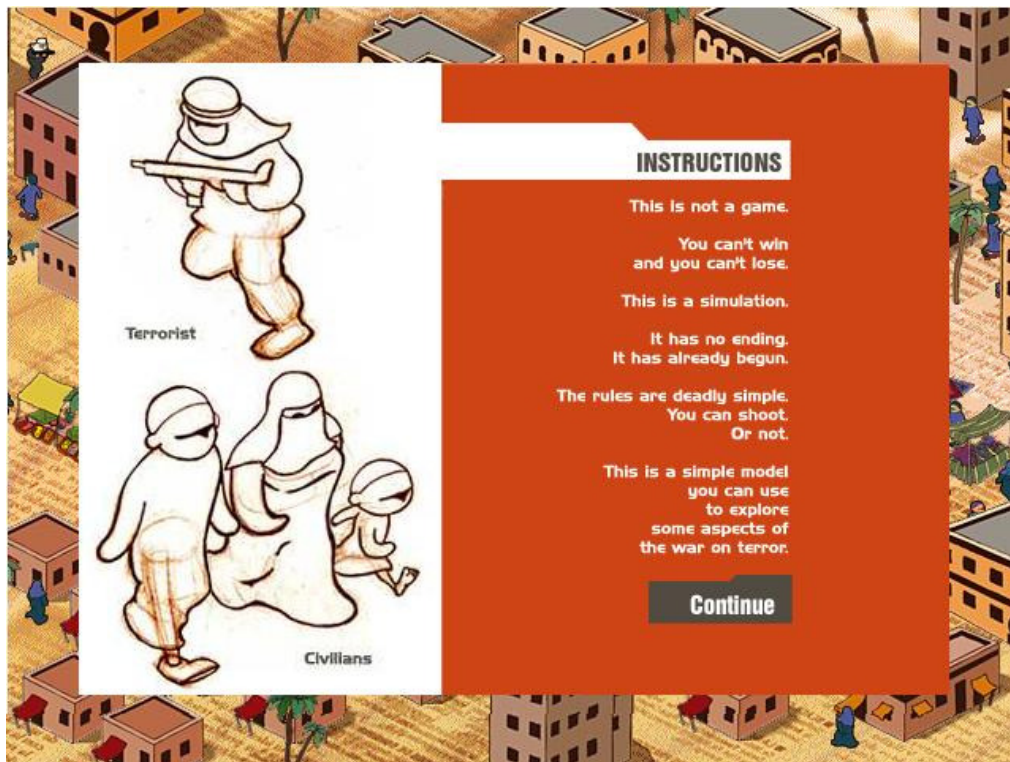
equally outside those of truth and falsehood, good and evil. Although it is a non-material activity it has no moral function. The valuations of vice and virtue do not apply here' (Huizinga, 1945, p. 6).

Such a lack of distinction within any game space allows play to fall under the banner of a wide range of experimentation with both transgressive and socially-acceptable behaviours, arguably safe and contained experiments in which younger players can experience how both feel (Consalvo 2007). There is also the opportunity to meta-cognitively observe one's responses to those experiences, a useful tool in exploring and transforming the nuances of one's moral and ethical character, for example. Games, as 'a restricted, closed, protected universe: a pure space' (Caillois, 1958) offer a built-in safety net while simultaneously offering myriad opportunities to explore nuanced aspects of one's responses to stimuli seldom encountered in physical life. This fundamental essence of game play creates a compelling sense of freedom within a sphere safely separate from ordinary life (Huizinga, 1945) that encourages experimentation, especially as one nearly always has the option of starting over if the experiment fails. As in the case of some Japanese salary men who drink to excess, make fools of themselves while under the influence, then go to work the next morning largely free of repercussions, there is a sense that all-is-forgivable within the magic circle that cocoons the game experience. In the case of the salary men, the social protocol is game-like in the sense that there are rules governing its usage: a system of formal vindication for otherwise inappropriate behaviour while under the influence. As long as one is playing by the rules (e.g. only do bad things while drunk), it is a safety net that allows for freedom of expression that cannot be otherwise experienced within the strict confines of excessively polite Japanese culture (Milne, 2003). Likewise, games provide a safe space to experiment with all sorts of behaviours, attitudes and approaches to life's situations.

Experimentation is particularly encouraged within the genre of persuasive games, in which players are placed in situations, like Mezirow's 'disorienting dilemmas' (Mezirow, 1997), where the choices are open-ended, but impact the outcome in a variety of startling ways. Players are also encouraged to reflect on the experiences



and their reactions to them. In one such game, September 12<sup>th</sup> (Fig. 3), players are presented with a scenario in which ‘there are civilians and terrorists’, and armed with a weapon but given no rules or instruction, it is up to the player to determine a course of action. In following the obvious course of action given the pervasive political rhetoric - shooting the terrorists - an important lesson is imparted when collateral damage causes civilians to also morph into terrorists (so well executed that it takes the player a while to notice what’s happening). To Huizinga’s point, the moral implications are not carved into the game so much as they inhabit the player’s response to it. The freedom and possibility that the game experience affords drives the lesson home more strongly than a text that might argue a similar point of view. As some mammalian biologists describe it, ‘play is training for the unexpected’ (Spinka et al., 2001); it is unlikely that someone will encounter this scenario in his or her daily life, but the game furnishes an opportunity to react and internalise one’s own response. The poet Ovid probably said it best: ‘In our play we reveal what kind of people we are’ (R. K. Gibson, 2003) – we reveal this to others, to be sure, but it may be more important that we reveal it to ourselves. The sociopathic delight that otherwise well-functioning members of society display when given an opportunity to run over pedestrians in a game like Grand Theft Auto is a perfect example: the joy comes from discovering what it feels like to break a taboo, all part of its intrigue (Aarseth, 1998). While enjoying this rare freedom to experiment without repercussions, the self-conscious player may find themselves a bit disturbed by their engagement in such transgressive play, an opening that can be cunningly leveraged into reflective activity by an astute educator.



**Figure 9. The Web-based 'game', September 12<sup>th</sup>, designed by Gonzalo Frasca.**

**It encourages players to think about terrorism from a novel perspective.**

Despite the knowledge that play is fundamental to human development and allows us to create contexts in which we can flex cognitive and creative muscle and learn a bit more about ourselves and our capabilities, we still largely consider the play element to be 'chocolate', denying it little importance aside from motivation and regarding it as a thin veneer of fun that wraps something 'serious' and makes it a bit easier to swallow. As a result, there is a sense that attempting to take existing curricula designed for linear, non-digital contexts and delivering them using a digital game metaphor is at best superficial. We can all see that having those two things fit together is an ideal (fun + learning), but there is a sense of unease about it: the more fun, and therefore engaging, a game is, the less comfortable we tend to be with its educational validity, and the more accurate it is from an educational perspective, the less fun gamers, accustomed to freedom and open-ended play, tend

to find it. It is as if learning and digital games do not quite go together. However the problem really is that education, as we tend to practise it and digital games don't fit together very well. It is difficult to carve out time in a classroom for open-ended game play, and even more difficult to rationalise the time spent if such game play sessions are not followed by an explicit assessment that describes exactly what the learner has learned in that period of time. Furthermore, online game play is almost out of the question in an educational context: not only do online games take more time than can be reasonably allotted in a classroom, but they also allow for a range of outcomes that tend to not be content-based at all, making assessment extremely difficult.

### **3.4 Expecting Interaction**

While it seems intuitive that there must be a way to co-opt the enthusiastic engagement and motivation for learning that is readily apparent when one observes digital game play, the formula for widespread success has remained out of reach. Part of the problem is that the appeal of multimedia, including digital games, has often been emphasised relative to the sophisticated graphics and fast pace of the images (Heinich, 1996; Mayer, 2001), a perspective rooted in notions of media spectatorship. However the appeal of digital games to people of all ages is more about the interaction(s) created around the game than the game itself; indeed, some researchers consider games to not be inherently interactive at all (Newman, 2002); it is the player(s) who create(s) the interaction. The idea of player-driven interaction being key to engagement and learning (Mayer & Chandler, 2001; Swan, 2002) underscores the importance of framing the appeal of digital games and interactive media within a larger conversation that considers the movement away from passive, spectator-oriented understandings of both education and media. There has been a shift from didactic, teaching-oriented approaches in education to constructivist models that acknowledge the need for the active participation of the learner in the process of learning. A similar evolution has occurred in Media Studies, where

reactionary models like encoding/decoding (Hall, 1980) that sought to outline an unbalanced, hegemonic relationship between media producers and consumers, gave way to an empirically-based acknowledgment of the variety of uses and gratifications (A. M. Rubin, 1994) employed by media consumers, and are now evolving into more fully illustrated examples of a participatory culture (e.g. Blood, 2003; Jenkins, 1992; Raessens, 2004; Sotamaa, 2004; Squire, 2001; Taylor, 2006) that was heretofore only suspected. Along with this perspective has come an increased awareness that the issues and opportunities surrounding media cannot be understood using old paradigms. Games, particularly co-created online game worlds, are especially problematic because it is impossible to read them simply as texts – the experience of playing a game is co-produced and continuously negotiated between developer and player: ‘The particularity of games as media texts rests on the fact that they cannot be only read or watched but they must be played. Thus, the creative involvement of the player becomes a fundamental feature of any game’ (Sotamaa, 2004).

As a media form, therefore, games can only be understood within the broader panorama of an increasingly participatory media culture:

A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created) (Jenkins et al., 2006).

As demonstrated by the Web 2.0 hype and the associated fascination with blogs, wikis, shared video, social networking sites, and other collaborative forms, participation has turned out to be a fundamental and compelling characteristic of digital domains. The particularly notable aspect of this shift from spectator-focused media consumption to active participation is that people who have experienced a

media relationship of the latter sort come to expect those sorts of options, if not always, then at least when they want it:

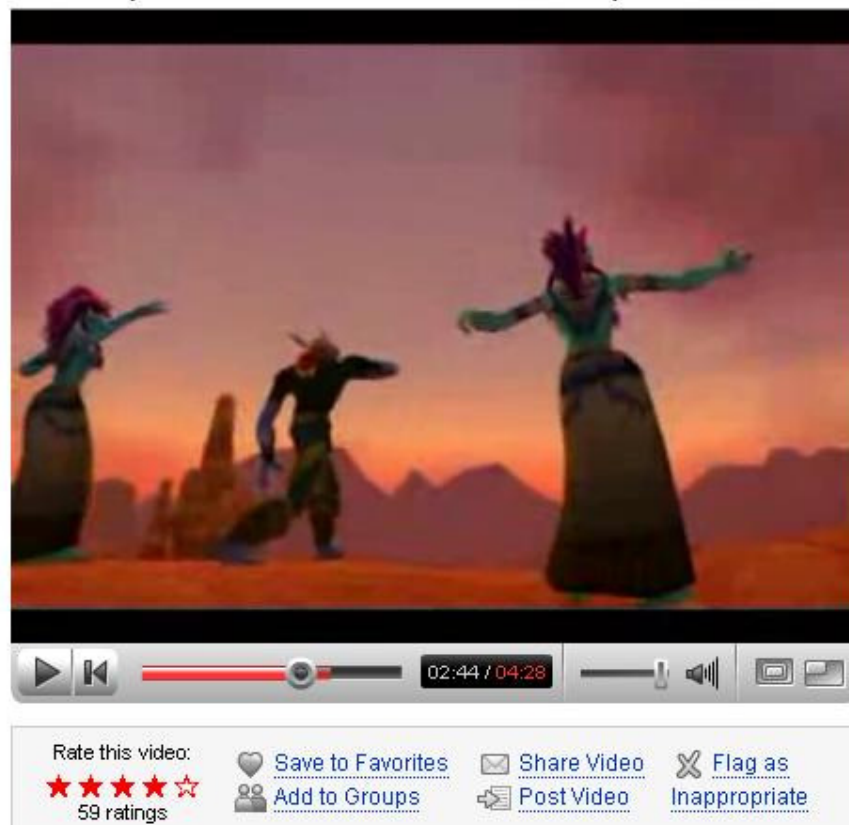
Participatory culture contrasts with older notions of passive media spectatorship. Rather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a new set of rules that none of us fully understands (Jenkins, 2006, p. 3).

Not only have young people come to expect the freedom to make contributions to the media spaces they inhabit, but co-creation and production have also become critical skills that may differentiate 'consumers [who] have greater abilities to participate in this emerging culture than others' (Jenkins, 2006, p. 3). It is no longer a straightforward matter that 'fans lack direct access to the means of commercial cultural production and have only the most limited resources with which to influence entertainment industry's decisions' (Jenkins, 1992). The effects of increasingly skilled participation from amateurs on the entire media machine from journalism to the music industry illuminate a dialogue that has emerged between producers and consumers, resulting in the co-creation of media properties that span and simultaneously reinforce both commercial and non-commercial contributions.

Though many examples are emerging, digital games may well present the most interesting examples of emerging participatory cultures. Game modding and machinima (Fig. 4) are both examples of the activities of players who take commercial game assets, and with the cooperation of game developers, take on roles of amateur developers by making and distributing changes to the game or leveraging game assets to create narrative films. Unlike the early days of fan production, consumers no longer have to exclusively 'poach' assets (Jenkins, 1992), but are instead allowed varying levels of sanctioned access to the elements necessary for co-production. In online game worlds, the flexible parameters specified by game designers involve creating the basis for an emergent world where environments are in constant flux: rules change, documentation is scarce, and the mastery of the game relies on a host of skills well-beyond the game's manual.

Indeed, these games and the strategies for playing them, are exercises in co-creation where players, as co-producers of the entire game play environment, can influence the rules, affect the outcome, and create a rich universe of social interactions, emergent activity, and culture that ultimately become the core of game play rather than the periphery: 'these are worlds in which 'gameness' is deeply woven together with the social and the co-constructive work of players' (Taylor, 2006, p. 155).

### **/dance (World of Warcraft machinima)**



**Figure 10. A screenshot from the *World of Warcraft*-based machinima film called /dance.**

**Players choreograph actual game play scenes into short narratives or music videos that they then distribute on shared video sites like YouTube.**

It seems intuitive that denying meaningful interaction, as is the case with most educational environments, to learners who have become accustomed to the pleasures of participation and contribution, might be the source of much of the

consternation we experience as we attempt to motivate students using outdated models that assume passivity:

We are coming to understand that what we so valued as an attention span is something entirely different from what we thought. As practiced, an attention span is not a power of concentration or self-discipline in the least, but rather a measure of a viewer's susceptibility to the hypnotic effects of linear programming. The 'well-behaved' viewer who listens quietly, never talks back to the screen, and never changes channels, is learning what to think and losing his grasp on how to think [original emphasis].... helping to convince ourselves that our lives could run smoothly and easily if we simply followed instructions (Rushkoff, 1996, p. 49).

Rushkoff's insight could as easily apply to our notions of learners as it does to television viewers, as it is tied directly to 20<sup>th</sup> century models of people as consumers. People are passive, uncritical vessels to be filled with stuff: propaganda, programming, content, curricula, desire for the latest and greatest gizmo. When this filling up is appropriate, a person's only responsibility is to be open to it by paying attention – the rest just happens magically. The dark side of this, of course, is that people if people are so accustomed to this process, they can also be easily filled with all sorts of other things, like obscured political messages and other by-products of hegemonies and commercial agendas wrapped in pretty, entertaining packages. Since we know people are susceptible to this, the conventional wisdom is to use games to serve up learning in a nicer package, thereby seducing learners to learn. However, this is a view that obscures the broader potential of games and play in learning.

We also cannot ignore demographic shifts that are affecting the way in which young people interact with one another, and the ways in which they prioritize their relationships with friends who are also co-participants in our broader learning culture. Perhaps most relevant to this period in history teeming with new connections to each other via digital networks is the idea that learning is an activity

that occurs on both individual and collective levels. This is particularly true for the aforementioned Generation Y and the subsequent generation dubbed Generation Z:

If Generation Y were to have any kind of hard and fast rule, it would be ‘chicks before dicks’ and ‘bros before hos’. Friends come first because unlike your family and your current relationship, they are the ones you can count on in the long run. This idea is reflected everywhere in Y culture. Take the site [www.suburbanunderground.org](http://www.suburbanunderground.org) which features “A Young Person’s Code of Ethics.” The central tenant of this Code illustrates the significance of friendships over sexual relationships for Generation Y (Huntley, pp. 29).

### **3.5 Participation and Learning**

As I mentioned in Chapter 1, my interest in human transformation is much more in the realm of learning (formal or informal), than education, and I am particularly interested in cultures of learning (often unrecognized and unaffiliated) that have emerged in both physical and digital spaces. Despite a great deal of fascination with learner-centred (if not learner-driven) constructivist learning, the vast majority of formal educational opportunities are still unilaterally decided and created by some educational body that decides what a learner must know: those things that are immediately relevant to an individual’s life are deemed largely inconsequential. Likewise the majority of efforts to use games in education do not take into account our changing understanding of people as media participants rather than consumers. Notions of teaching and learning are equivalent to notions of media producers and consumers. And this effect, once experienced, is not limited to media, but pervades a range of expectations about participation, especially an increasing drive to seek autonomy and relevance in one’s educational endeavours. Herein lies the quandary: acknowledging games as participatory forms, then attempting to use them in an educational context means having to reconcile the increasingly participatory sensibility that young people bring to all of their interactions. To be told what needs to be learned is fundamentally at odds with this type of approach. Part of the



process of participation is co-creating the system: guidance from an expert educator is always useful, but if a learner has no input into what is to be learned, has no say in choosing what is relevant to their individual life, there is no motivation to learn. Placing the irrelevant in a slightly more appealing package is a short-term strategy at best.

The core of the problem is that there is also a false dichotomy, suggested by Rousseau and Dewey and refined by Freire, within the very notion of teaching and learning as two discrete activities, one enacted by a producer as the consumer succumbs to the other. Barab et al point out that this dichotomy is a reflection of modernist hierarchies that seek to impose order on the otherwise messy business of learning with the observation that 'modern science has been built on a Cartesian or Newtonian (mechanical) world view giving rise to an artificial view of mind and suggesting that particles (learners) are continuously working to destroy order (are recalcitrant), which can only be maintained by an external artificer (the teacher)' (Barab et al., 1999). This would be a deliberate attempt to undermine any notion of a learner as an active participant in the process:

Implicit in the banking concept is the assumption of a dichotomy between human beings and the world: a person is merely in the world, not with the world or with others; the individual is spectator, not re-creator. In this view, the person is not a conscious being (*corpo consciente*); he or she is rather the possessor of a consciousness: an empty 'mind' passively open to the reception of deposits of reality from the world outside... It follows logically from the banking notion of consciousness that the educator's role is to regulate the way the world 'enters into' the students. The teacher's task is to organize a process which already occurs spontaneously to 'fill' the students by making deposits of information which he or she considers to constitute true knowledge. And since people 'receive' the world as passive entities, education should make them more passive still, and adapt them to the world. The educated individual is the adapted person, because she or he is a better 'fit' for the world. Translated into practice, this concept is well suited to the

purposes of the oppressors, whose tranquility rests on how well people fit the world the oppressors have created, and how little they question it (Freire, 1970).

Certainly there is no provision, nor indeed any desire, in this view of student as consumer at best, disruptor at worst, that allows for the possibility that the learner might produce knowledge that affects the learning of his or her teachers, or the organisations to which they all belong. However an alternative view of the teacher/student relationship as a symbiotic one mirrors the overlap between previously discrete notions of media producers and consumers. In the co-production paradigm, teaching and learning are two activities within a continuum of learning that affects both the individual and the organisations and society to which an individual belongs, 'the teacher's thinking is authenticated only by the authenticity of the students' thinking' (Freire, 1970). While all around us in practice, this idea has been obscured within most formal educational systems where education is handed from expert to learner in a distinctly one-way transaction, a factor that significantly impacts learner engagement and motivation:

Co-design means ownership, buy in, engaged participation. It is a key part of motivation. It also means learners must come to understand the design of the domain they are learning so that they can make good choices about how to affect that design. Do student decisions and actions make a difference in the classroom curriculum? Are students helping to design their own learning? If the answers are no, what gives students the feeling of being agents in their own learning? (Gee, 2004)

To take the idea a step further and acknowledging the impact of individual learning on collective intelligence: in the Maori language the words for teaching and learning, *akoranga*, are the same, hinting at the integrated nature of learning from the view of an organisation or community. As Pask theorises, to teach is to learn and to learn is to contribute something to our larger collective intelligence, thus teaching the larger learning body (Pask, 1976). Digital game environments, particularly online games, epitomise this orientation in action. By paying attention to learning within these

spaces we can understand how individuals who have come to self-identify as participants and contributors co-create robust virtual environments in collaboration with developers. And we can understand how co-creation is linked to ongoing learning on both the individual and collective level, two sides of a coin that will become even more inextricably linked as participation becomes a given across a wide range of previously stratified institutions.

### **3.6 Fostering Learning in Digital Game Spaces**

In order to fully leverage the potential of digital games for learning, it is imperative to recognize that these environments demand approaches to learning that privilege play and production over traditional models of serving content in a more appealing package. To effectively use a digital game for learning means using the game as a site for learning, not simply as a means of delivery. It means using the game as a tool to create a learning context with broad objectives: the specifics of what is learned might vary considerably from learner to learner and might span a range of competencies. It may be necessary to memorise particular facts to accomplish the goals, or even develop skills like problem-solving. However the real opportunity is in learning to be, to foster varied or deeper perspectives, like what it feels like to not simply know the steps of the scientific method, but to employ it as part of a rigorous scientific belief system and get results that allow one to see the world differently (Gee, 2004, 2005). In this regard, Thomas and Seely Brown reference Dewey's 'play of the imagination': learning a set of dispositions or comportment in a world is more likely to transfer than specific bits of knowledge (D. T. J. Seely-Brown, 2005). The opportunity provided by play is potentially transformative, and may trivialise specific content expertise (Mezirow, 1997). Content will continue to be important, but with the right perspective, a learner can pick and choose what needs to reside in one's head and what can be acquired on a more ad hoc basis. This approach encourages the learner to take responsibility for the specifics of one's learning within a framework of overarching goals.

This is precisely the area in which games really shine. There are particular things that need to be learned in the pursuit of game goals – an educator can fashion a participatory learning environment (Barab et al., 2001), in which an intimate knowledge of Greek architecture and language become fundamental to understanding a virtual environment well enough to win a game. Similarly, a context can be created in which team-work and communication must be effective in order for a group of players to work together to achieve a particular goal. In typically constructivist fashion, it is incumbent upon the educator to understand the various moving parts within a system, anticipate learner responses, and loosely craft an experience that meets the learning objectives. It is important to make forays into the game ecosystem mandatory to success, however, not something that learners feel is optional:

While committed gamers will work diligently to learn whatever is needed to be successful in a game—physics, mathematics, history, geography—the majority will not invest as much time and effort—nor be as self-motivated. In short, it would not be correct to assume that all would share the same motivation when playing nor behave the same if a game were used as a learning environment (Oblinger, 2004, p. 6).

The motivation to access resources outside of the game must be built into the game's objectives. The assessment is then based on whether the overall objectives have been met. It is then the responsibility of the learner to fill in the gaps provided by the openness of the experience, and this plays well into the co-production sensibility. Learners can be given a larger set of directives and various tools and resources to access information they think is relevant to the directives; it gives the learners an important sense of autonomy while also being forced to sort through a complex set of options, mimicking problem-solving in the real world. In addition, learners have the opportunity to form connections between the content they acquired and the experience that allows them to integrate it more fully; the latest thinking in neuroscience speculates that this is a critical aspect of forming a pattern

that can later be applied to a different situation without relying heavily on strict protocols or procedures (Hawkins, 2004).

Furthermore, the creation of loose game-based learning contexts allows for identity transformations that are not possible within more closed, content-oriented learning systems but may clear the way to significant learning. In Squire's work with low-income and minority students who played Civilization III as part of a world history unit, the first hurdle to be overcome was the students' basic concept of the validity of history and their distrust, as marginalised people, in the various themes and facts they were exposed to in history classes. The ability to participate in simulations of historical or quasi-historical events from a range of perspectives was an important first step, indeed a critical one, in forming a basic interest and acceptance of history, and realizing that our understanding of history is informed and continuously revised by myriad points of view. It is this thinking like a historian that becomes that transformative factor: this is a participatory practice, even if only in the play environment. And once the learner has the sense of being a participant in history and the investigation of history, the door is opened to learning and thinking critically about it.

This is where the real promise of digital games lies: involving learners in a productive process of participatory play, guided by an educational agenda, but driven by the learners themselves. Squire's work shows how this approach can accommodate a wide array of learning needs and socio-cultural contexts:

Looking at who wins and loses through a game-based curriculum reminds us that curricular issues are also about power and control. A curriculum based on Civilization III overturns traditional hierarchies, supplanting those adept in traditional schooling with those failing school. The successful students were concerned that their more traditional school-based expertise was not honoured in this classroom, and they were not convinced that success in a game-based unit would help them on college entrance exams or in college classrooms, both of which rely on more traditional literacies. They believed that Civilization III was insufficient preparation for the 'game' of higher

education, and perhaps they were correct. Yet, students who were failing in school (or whom school was failing) developed and demonstrated complex understandings within a game-based curriculum that go undeveloped or unrecognized in other school experiences (Squire, 2005).

Finally, to tie it back to collective learning at the community level, these diverse experiences can be used to inform novel perspectives and approaches that are left unexplored in traditional direct transfer learning environments.

### **3. 7 Why Study Learning in Virtual Worlds?**

Success in the realm of game-based learning hinges on a deep understanding of emerging digital cultures and the role of play in our lives. Awareness of these evolving areas will surely help inform our understanding of the systemic nature of learning, its connection to productive play in an increasingly interconnected world, and the place that game-based learning occupies within such a system. A deep holistic understanding of game play trends and player habits across both offline and online games, as well as ongoing attention to the larger backdrop of participatory practices, will both be critical to our success in helping realise the promise of digital games to learning, both in formal educational settings and informal learning contexts where self-discovery and development might be of interest. In fact, this might emerge as the sweet spot for digital games: tools for self-directed learning in a world where learners increasingly guide the direction of their learning, co-creating relevant educational scenarios with the assistance of educational faculty, but with an eye towards using a range of digital resources to achieve the sorts of goals that can be powerfully explored through safe experimentation in digital play spaces.

Several researchers have taken an interest in the specific intersection of games and learning, and particularly the unique development of specific literacies and perspectives (Gee 2003, 2004, 2005, Jenkins 2003, et al), and a focus on peripheral 'thought', 'reflection' and 'engagement' (Gee, 2005) that accompany productive play. Since the 1970s, when digital games first burst onto the scene, prescient scholars have been looking at the potential of text-based and graphical games and

virtual worlds for learning, typically with an explicitly educational focus (e.g. Barab et al., 2001; Bricken, 1991; Bruckman, 1997; Dede, Salzman, & Loftin, 1996). The natural response of many educators exposed to the obvious motivating character of digital game play is to ask how that motivation can be leveraged into productive activity (e.g. Belanich, Orvis, & Mullin, 2004; Bowman, 1982; Bracey, 1992; Driskell & Dwyer, 1984; Medina, 2005). In some cases research into entertainment based games has been used to break down the aspects of game play that contribute to engagement in an effort to inform instructional design practices (Dickey, 2005). Parents echo the sentiment: how can the 'waste-of-time' be made productive? Surely it's simply a matter of taking 'better' content and making it available in the game context in order to spur motivation. This view is extremely limiting yet prevalent in the literature and in research efforts to date. As Medina (2005) points out, even the interest in motivation in games is typically quite limited relative to the context of motivation theory as a whole. Several studies have sought to outline interest theory: using a game to bait a learner's interest in a topic also referred to as co-opting (Buchanan, 2003). Other studies have looked at motivation driven by challenge, explicit goals, and rewards (e.g. Cordova & Lepper, 1996; Garriss, Ahlers, & Driskell, 2002; Prensky, 2001). However, there has been very little research in the area of self-determination, or personal growth, even if limited to the development of one's role as a game player, as a motivating factor:

The human need for competence refers to the sense of feeling that a person can do something well, autonomy refers to the freedom to make choices and relatedness refers to the sense of security, caring, and empathy a person experiences, the need to feel that one belongs to a group or place and is connected with others. Self-determination refers to the process of utilizing one's will to choose how to satisfy one's needs. To be self-determining, people have to decide how to act on their environment. Nevertheless, this theory has not been used to study motivation in digital games. Self-determination theory has several implications in the study of motivation and learning, and can be very useful to understand how learners relate to the environment where they learn (Medina, 2005).

While this thesis is not concerned with proving nor disproving particular motivation theories, it is nonetheless interesting that the prevalent attitudes towards games limits their impact, even on a motivational level, to non-participatory and non-social models.

Other researchers, particularly those of the learning sciences persuasion, have chosen to focus on the learning already taking place in entertainment-based settings, irrespective of explicitly educational content or potential (Gee, 2003, 2004; Steinkuehler, 2003, 2004a). This work often involves assessing games as sites for learning cultures. This approach is more in line with the work of anthropologist Lave, whose concern was the process of learning and apprenticeship as a socio-cultural construct, not the content of learning as prescribed in formal curricula. This perspective led her, along with collaborator Wenger, to privilege traditional work settings in order to describe the nature of learning in an unstructured context that was motivated by productive activity relevant to immediate occupational goals (Lave & Wenger, 1991). While this author tends to err on the side of exploring learning as it occurs in naturally-occurring contexts rather than attempting to assess efficacy in formal ones, the two perspectives are destined to meet somewhere in the middle. Ongoing research agendas attempt to either engineer virtual learning environments or verify the presence of the self-directed learning activities that lead to mastery of digital play spaces, both areas of research necessitate an awareness of shifts from 20<sup>th</sup> century models of media/content consumption to an acknowledgment of an increasingly participatory culture whose impact, while rooted in entertainment endeavours, is resonating in a range of institutions, including education.

This concludes the literature review portion of the thesis. The next chapter outlines the methodology and history of the project, and subsequent chapters tie findings to the theoretical questions discussed in Chapters 1-3.



## **Chapter 4: Conducting Virtual Worlds Research**

“If I knew what the hell I was doing, it wouldn't be research”

- Anonymous

### **4.1 Introduction**

This four year ethnographic project progressed in a relatively exploratory way which I will now outline in this chapter. I was driven to construct and complete this study because of my realization that as ‘the first interactive mass medium to unite entertainment and communication in one phenomenon.’ (Filiciak, 2003), virtual worlds present a tremendous opportunity to explore a nascent area of media convergence, while possibly understanding how the naturally-occurring phenomenon of self-motivated social learning and collaborative problem-solving can be leveraged into other contexts. Understanding learning in the 21st century cannot be limited to formal educational spaces. With an eye towards these broader possibilities, this research project has sought to broaden the definition of communities of practice/learning to encompass spontaneously occurring communities of practice/learning within an entertainment context. As with any journey that unfolds over a span of several years, this has also been an evolutionary process that has led me to places well beyond my initial expectations.

In summary, this research project focuses on the socio-cultural aspects of how individual gamers work collaboratively and form collectives, either formally or informally, to understand, play and master the game by developing a collective intelligence that is greater than the sum of its parts. But fundamental to the methodological decisions herein is the reality that this collective intelligence is not

created by players alone, but as part of an intricate set of interactions with a range of entities: developers, publishers, fan sites, game magazines, reviewers and finally, a multitude of players who may also claim membership in one or more of the other groups, as well. Mastery of an online game or virtual world environment requires regular forays into the complex meta-game universe of player-supported cheats, macros and walkthroughs, often mechanisms put in place by the players to bypass or build upon the original intentions of the game designers. This collective intelligence, made up of contributions by game developers, publishers, fan sites and players themselves, affords players with a de facto learning system for understanding the mechanics of game play as well as nuances of the more affective domain, such as how the other players respond to various approaches and what is deemed appropriate, inappropriate and desirable behaviour within the game.

This project explores the character of social learning associated with virtual worlds and is inspired by my interest in the nature of learning, my experiences as a gamer, and the research and opinions of a great number of scholars, including John Seely Brown (2004), Etienne Wenger (1991, 1998), Jean Lave (1991), Henry Jenkins (2005), Mikael Jakobsson (2003), T.L. Taylor (2003), James Paul Gee (2003), Constance Steinkuehler (2004), Kurt Squire (2004) and countless others. Seely-Brown has said that 'learning is a state of becoming' and I have interpreted that idea through this study as learning by becoming part of a group or game culture. I have been specifically focused on the phenomenon of self-motivated social learning in virtual worlds: how players self-organise and self-empower to achieve mastery of a game or virtual space. Specifically, this research project involved an ethnographic analysis of communities of player-learners in two related massively multi-player environments, with meta-ethnographic synthesis of the larger context for play via physical and virtual fieldwork in range of geographies and virtual worlds, as well as consideration of available studies covering other virtual world environments. The guiding questions feature various aspects of participation, community, learning and self-organisation:

How players self-organise into temporary and more permanent groupings and assist each other in learning the intricacies of a world.

How players contribute to the world and meta-world environment, and how developers/publishers respond to these contributions.

How socio-cultural literacy develops in the context of a world, and how the worlds develop and regulate unique cultures and values.

What a successful group looks like in terms of etiquette, roles and social norms.

How skills developed in virtual worlds might be leveraged into real-life contexts.

What implications virtual worlds suggest for learning programmes in business and educational settings.

What, if any, are the possibilities for transfer, transformation and indeed, greater social good?

The project takes a primarily qualitative approach to exploring these questions.

## **4.2 Field of Research**

The more generalized description of virtual worlds has been chosen for this study although the primary research will take place in two related massively multiplayer online game (MMOG) environments. This decision was made after a great deal of consideration and exploration within a variety of virtual world environments, including some explicitly social spaces like *Second Life* and *the Sims Online*. The term “virtual worlds” tends to encompass a variety of 3-D virtual spaces, whether they have explicit game goals or not. To further complicate matters, researchers like Edward Castronova are now referring to these spaces as ‘synthetic worlds’ (Castronova, 2005) in deference to the idea that they have greater potential than we currently give them credit for. At this point in time, the moniker ‘virtual worlds’ as adopted by Richard Bartle (2003) summarises the field of research well. The study is

not limited to MMOGs because there are significant spontaneous learning activities occurring in a variety of virtual worlds, that while not central to this study are of peripheral interest as points of comparison. As explained in the introduction, MMOGs are, in fact, a sub-category of the larger category of virtual worlds.

Selecting a virtual world to build my research efforts around was one of the more difficult parts of the research design process. Of my own volition and based on my inclinations as a gamer myself, I had begun playing *City of Heroes*, the virtual world that I would ultimately choose as the primary venue for my research, around the time that I was putting my initial research proposal together during early 2004, but I had never seriously considering using it as the subject of my study. Instead I explored a variety of virtual worlds, including *Anarchy Online*, *A Tale in the Desert*, *Second Life* and *The Sims Online*, as well as a number of virtual worlds that were released later in 2004/2005, including *The Matrix Online*, the wildly popular *World of Warcraft*, *Guild Wars* and *Star Wars: Galaxies*. While many of these worlds were appealing, there were however various practical considerations in choosing a virtual world that ultimately formed the basis of my decision. Because the research would be focused on knowledge sharing practices, group formation, etiquette, etc. via a range of players automated chat logging was extremely beneficial. However, *Star Wars: Galaxies* and later, *City of Heroes*, were the only games to offer this seemingly basic feature. *Second Life* did allow cutting and pasting of the chat history, but even that ability was limited in other environments. *World of Warcraft* players have subsequently developed a chat logging function, as well, but this was not the case during my initial evaluation of the game.

The world needed to be open-ended enough to allow for a range of spontaneous social behaviours. Some MMOG environments, like *Guild Wars*, tend to be more tightly scripted game-like experiences that do not allow for a wide range of emergent social behaviours. Even *World of Warcraft* is quite prescriptive in the early stages, though a dependence on groups and guilds later in the game provide a launching point for some very complex social interactions.

The world also needed to be designed in such a way that spontaneous grouping and other casual social interactions were encouraged. Games like *World of Warcraft* are a bit more difficult to break into in terms of social interaction, at least in the early stages. It is often imperative to be part of a longer-term guild in order to regularly guarantee that there will be other players to group with. However this study is more concerned with casual social groupings.

Access to the developer and/or publisher of the subject game would allow a multi-dimensional view of the ecosystem surrounding the game. I initially sought cooperation from Sony Online Entertainment, the developer/publisher of *Star Wars: Galaxies*, but even though I had a good contact there, I was unable to get the public relations support necessary to ensure cooperation from the project team. The developer of *World of Warcraft*, Blizzard Entertainment, did not respond to requests for research help, a fact bemoaned by many other game researchers as well. The developer of *City of Heroes* and *City of Villains*, Cryptic Studios, and the publisher, NCSoft, were both quite amenable to participating in the study, partially because the lead designer of *City of Heroes* and *City of Villains*, Jack Emmert, is himself a former academic (of the Classics). This sort of cooperation would also open the door to research collaboration and ensure more significant access to a larger pool of participants or existing data.

Despite research into these other environments, it became clear that the *City of Villains* franchise (including *City of Villains* – the two are often referred to as CoX, as the two environments are spawned from separate games, but players from each can meet in particular player vs. Player spaces) was the best virtual world for this study's particular objectives. Ultimately it made a lot of sense because the game play mechanics are relatively simple, yet grouping and cooperation are fundamental to mastery, or at least to fun. The game was also expanded into Europe and Asia during my period of research (it is called City of Hero in Korea). I was able to participate in the European beta of *City of Villains* (on the English, German and French servers), and I was able to visit the NCSoft team in South Korea prior to the launch of City of Hero and learn more about how they were

planning for the launch of the game based on their previous experiences with the wildly popular Lineage series in South Korea.

In addition, there were other factors that made the *City of Villains* franchise an obvious choice:

- Casual grouping is prevalent, but many players also opt for longer term 'Super group' (clan or guild) affiliations.
- Unique grouping mechanisms make grouping easy, unlike other worlds where casual grouping is arduous and therefore sometimes avoided.
- Large groups (8) guarantee complex combinations of players, who can self-organise into even larger groups.
- While they can be played on a casual basis, the games also have a complex end-game that appeals to the 'hard-core' player.
- Spontaneous social behaviours like dance parties and costume contests illuminate the social facets of virtual worlds, even those that are primarily game-oriented.
- A sister game, *City of Villains*, launched in autumn 2005, providing a similar yet unique community to compare.
- *City of Heroes* and *City of Villains* have an international player base with official localization and expansion into various markets (UK, France, Germany and Korea).
- *City of Heroes* and *City of Villains* contain a function that allows players to turn chat logging on and off at will. Once turned on, the logging functions saves to text files data relating to time spent, players grouped with, and the details of the text-based conversation that took place.
- The developer, Cryptic Studios, and publisher, NCSoft, have been very cooperative in allowing access to staff and information in the U.S. and Asia. Furthermore, this long-term collaborative relationship allowed for access and re-access informants on an

ongoing basis. They also cooperated in promoting the survey associated with this study, promoting it both on the *City of Heroes* official website (for one week), and on the loading screen of the game itself (for another week). This collaboration allowed unparalleled access to an untapped sample of nearly 10,000 gamers.

- The *City of Heroes* culture produced friendly and open players as a result of the 'hero' ethic, but there is also an opportunity to observe and compare the alternatively motivated community in *City of Villains*.
- I like to play both of the games. This may seem trivial, but my reflexive approach requires me to be engaged in the world, both as a gamer and a researcher and that enthusiasm is not something that can be artificially stimulated.
- The character generation system in both of the games provides many opportunities for player creativity, itself a type of social lubricant that produces a range of spontaneous social interactions, e.g. 'I love your character!'
- The development team is committed to ongoing collaboration with their player base via the official message boards, an approach that is relatively rare in a heavily litigated and brand-aware commercial culture. They also encourage fan participation via events, a fanzine, and contests that reward player creativity.
- The development team releases game updates on a regular basis. As of February, 2008, they had released 11 major updates to the game (Issues) that add additional areas to play in, as well as new features and character abilities.

I played *City of Villains* off and on since May 2004 and *City of Villains* since August 2005 (including the pre-launch beta period). During the core research period (2004-2006) I played 3-5 days a week for 2-4 hours at a time. I currently have eight hero

characters and two villain characters that I still occasionally play. The heroes are spread across two servers: Justice (non-role-playing) and Virtue (role-playing and non-role-playing, also with a concentration of players from New Zealand and Australia, making it easier to find grouping partners) – the Villains are on the same server, Virtue. I gather chat logs and screenshots from each session, and write reflexive field notes on what has occurred. As mentioned above, I have occasionally disclosed my role as a researcher, but ordinarily play as I would anyway, perhaps probing a bit more deeply if the conversation takes an interesting turn. I have also belonged to a variety of super groups, taking a minor officer role in some, but never leading them on my own, as it seemed that taking a leadership role might affect my ability to be a less involved observer.

#### **4.3 Research Design**

In her blog *Mathemagenic*, Lilia Efimova (2004) has compared the process of designing doctoral research to putting a jigsaw puzzle together. While seemingly trivial, this metaphor embodies well the struggles involved in the process. The standard approach to jigsaw puzzle construction is to first build the perimeter of the puzzle in order to provide a frame for further work. The next step is to gather other seemingly related pieces into clouds, until enough clouds are formed and the clouds can then be attached to each other and to the frame itself. This process mirrors the chaotic yet ultimately fruitful journey of doctoral research: the frame is the underlying theory or frameworks, the clouds are data that need to be connected to it. But the process itself is slow, arduous and filled with trials and errors. However, one soon finds that there is really no other way to put a puzzle together one has to begin with a lot of small pieces that give only a hint of the whole, but seem to want to find their way to one another.



This research project was initially envisioned as an ethnographic account of learning practices, indeed a learning culture, within one virtual world environment. I employed traditional ethnographic methods in both virtual and real life settings, though the cultural object of research always occupies a virtual space. An ethnographic approach was selected after a great deal of consideration because it is this sort of qualitative approach that is best suited to research questions that are concerned with culture, social interaction and dynamic learning processes. While quantitative or empirical results would be ideal in any research project, the phenomena to be described are not well enough understood to zero in on certain specific aspects at this stage in the development of virtual worlds and the study of social learning within them. As such, this study should be viewed as exploratory, ultimately asking as many questions as it answers. But it can also be considered a monograph of sorts: various snapshots in time of cultures in an evolutionary cycle, the basis of which may be quite relevant to the future of learning online and within virtual spaces.

Classical ethnographies have served a variety of functions as research devices, from the straight-forwardly important documentation of ephemeral cultures to the greater illumination of specific cultural nuances within the universal framework of human behaviour. Uniquely human constructs like kinship have found representation within the softer social sciences. Classical ethnography typically involves significant time in the field, generally a minimum of six months, but often up to two years or more, sometimes spread over a significant amount of time. Because of the small sample size and subjective nature of such research, 'typically the ethnographer generates more hypotheses than concrete findings in a study' (Fetterman, 1998). This is certainly the case in my study.

An ethnographic approach was really the only option as a core research method, as the goal of the research is to document spontaneously-occurring learning phenomena in a natural setting: 'cultures are studied in their natural state, rather than as disturbed by survey techniques or experimental scenarios' (Hine, 2000). Ethnography is subject to criticism from other scientific approaches because it can

be subjective, fuzzy and unreliable, but it is precisely those characteristics that make it a critical method for the study of culture, especially those that are in an accelerated phase of cultural flux and evolution, as is the case with virtual worlds.

Ethnographic research has long been concerned with the issue of context when making sense of cultures. It is never enough to record a cultural event without understanding and disseminating the context in which that event takes place. As such, the research has been designed to take both a macro and micro approach to its subject. The first phase of the project is concerned with understanding the greater context in which virtual worlds are inhabited and enjoyed by players and involves exploration of a number of virtual worlds and several months exploring the contexts and settings in which play is executed. Specifically this involved visiting net cafes and interviewing players, developers, academics and many others in twelve countries from Australasia to Europe. The point of these activities was to better guide the research design and allow a greater holistic understanding of the area, including a cross-cultural perspective on the phenomenon of online engagement. I also conducted an ongoing meta-analysis of blogs, forums, mainstream news sources, and newsgroups related to these areas, including analysis of the archives of the MUD-Dev mailing list (1996 – 1999), a critical resource for discussions around the basics of virtual world interaction and design conundrums.

In addition, this first phase was complemented by my ongoing ethnographic work in *City of Heroes/City of Villains*. This work involved participant observation via a number of characters on various servers, interviews with players, developers and publishers, as well as the collection and analysis of player diaries, fan site entries, forum posts and log files, among other artifacts. Finally, a second phase involving more detailed player research commenced in 2006 and included a player survey and follow-up interviews. Ethnographic work in *City of Heroes and City of Villains* also continued intermittently for a span of nearly 4 years of ethnographic study.

One of the characteristic benefits of ethnographic research is the process of ‘thickly’ describing a culture and thereby providing for future generations a robust snapshot in time (Geertz, 1993) And while ethnographers should ‘assume a holistic outlook in

research to gain a comprehensive and complete picture of a social group', it is generally inadvisable to cast too wide a net, as the benefits of the particular might be diluted in the process. For even though an 'ethnography attempts to be holistic – covering as much territory as possible about a culture, subculture or program... it necessarily falls far short of the whole' (Geertz, 1993). This researcher is attempting to strike a balance between the two poles of a general, holistic approach and a particular one by running two efforts in parallel. One effort is the monographic description of practices within two specific virtual worlds, but the other attempts to place those activities within the context of other virtual worlds and their cross-cultural variations. A 'holistic orientation demands a great deal of time in the field to gather the many kinds of data that together create a picture of the social whole' (Fetterman, 1998), thus the extended period of participant observation was critical. I also found that my time simply soaking in cultures that value game play (like the Asian countries I visited) helped me to internalize their appeal. There is nothing quite like spending time in a Tokyo Internet café with its individual booths and unending supply of miso soup and slushie drinks to make one realize how much of a haven these places are to those who frequent them. Likewise, the PC Bangs of South Korea represent a wholly different, socially focused approach, replete with loud conversation and even loveseats for sharing the experiences with romantic partners.

Opportunistic research approaches are also fundamental to ethnography. While it was my intention to focus most heavily on results from my ongoing participant observation within *City of Heroes* and *City of Villains* I also realized that my collaboration with NCSoft provided some unique opportunities to gather data in ways that are typically inaccessible to other researchers. What has emerged is therefore part virtual world and developer/publisher/fansite organisational ethnography, partly an exploration of gaming cultures world-wide, and partly a self-reflexive journey as a gamer myself, the latter a perspective that interpretive ethnographers like Denzin find unavoidable: 'the writer can no longer presume to be able to present an objective, uncontested account of the other's experiences' (Denzin, 1997, p. 8). Therefore I have embraced my role as a participant observer,

and have attempted to be as self-aware and open as possible about my challenges, biases and perspectives.

The data set also includes a significant body of quantitative and qualitative data that emerged from a surprisingly robust response to the survey I published in 2006.

Nearly 10,000 (n=9958) players provided responses to a fifty question survey, all over a two week period. Though my original intention had been to focus on the qualitative data gathered from the survey, it became clear that to do so would be to miss an opportunity to provide something of enormous value to the game studies community. The sample is a particularly large one, and the sample method is less narrow than previous projects. Nick Yee's work, for example, while immensely valuable because of its size (40,000 plus) and longitudinal nature, has been criticised because it pulls on a group of self-selecting respondents who opt to visit Yee's research website, *the Daedalus Project*. The sampling for the *City of Heroes/City of Villains* survey I undertook was serendipitously quite unparalleled in academic game research: NCSoft, the publisher of the games, promoted the survey via both their official website (for one week) and the launch screen of the game itself (for another two weeks). This meant that players who might never think to seek out research opportunities, or who indeed never visit any of the external websites or resources related to the game specifically, or to MMO games more generally, were prompted to take the survey as they waited for the game to load. It was made very clear that the survey was an academic survey conducted by me, but they used their screen real estate to provide the link. Furthermore, the fact that the game often downloads and installs patches when it first launches meant that players were often sitting there waiting with little else to do than answer the survey that was proffered. The response was so great that on the advice of my supervisory committee, I actually asked the game publishers to remove the links after three weeks, once I had achieved 9958 responses.

#### **4.4 Participants**

Participant involvement is a key component of this research, as it will allow for much deeper exploration of the issues than simple observation or survey techniques. This study does not attempt to use probability sampling, but will draw its core research sample from a large self-selected sample of participants who choose to respond to a quantitative and qualitative survey about their MMO playing habits.

Navigating the issue of ethical participant observation in virtual worlds has been the biggest challenge to the research design, as there is still a great deal of discussion and debate as to the appropriate methods of engaging with participants in virtual spaces. For example, the question of whether it is possible or even necessary to inform and gain the consent of players in a virtual world is a problem that has been intriguing Internet researchers for some time. The Association of Internet Researchers (AoIR) has convened an Ethics Working Group with the goal to 'formulate a set of values that all Internet researchers should uphold when research involves humans. Articulating these shared values, and elucidating the issues involved so that researchers can make informed and thoughtful choices' (AoIR, 2006). The question of ethics in virtual spaces is not answered in simple black and white, but rather a thoughtful process of questioning one's ethical approach at every data collection point involving humans and repeatedly asking oneself if the participants are being treated in accordance with the accepted yet evolving guidelines for ethical treatment of human subjects.

Regarding virtual worlds research in particular, a post by researcher Constance Steinkuehler on the virtual worlds blog Terra Nova<sup>23</sup> outlines the ethical participant observation dilemma as two poles: 'every single person who is a potential participant in your research deserves full disclosure of what you are doing and how, and even after formal (e.g. signatures on human subjects forms) is given, such consent must be constantly negotiated and re-negotiated on an ongoing basis since any initial agreement cannot adequately insure that they truly understand the nature of what it is they are consenting to' versus the other pole: 'soliciting formal

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<sup>23</sup> <http://terranova.blogs.com>

informed consent from every possible participant in an ethnography is disruptive and largely unnecessary (within, of course, certain constraints). Giving a long description of your research to every person you cross virtual paths with, let alone contacting them outside the game in order to snail mail them human subjects forms, would be disruptive to actual participation in the space/culture/game (both your and theirs), which is unnecessary and unwanted. The idea here is that you do a disservice to other gamers and your own legitimate observations if you constantly make what you do an issue with everyone'. Steinkuehler points out that most researchers fall somewhere between the two poles, drawing upon bodies of research and their own personal experiences in virtual worlds to determine where on the continuum they sit.

To assist with this seemingly ever-moving target, the ongoing discussions within the game researcher community of practice have meant that methodological dilemmas, particularly as they pertain to issues around ethical participant observation, can be debated in real time and the methodologies evolved to adhere to the community's increasing understanding of the roles of privacy, consent and anonymity in such environments, as well as how to balance play culture with scholarly rigour. For example, fellow game researcher Timothy Burke (2006) has commented that 'the ethnographic norm in studying virtual worlds ought to be much closer to good first-person reportage, albeit resting on a foundation of scholarly practice and scholarly canon'. Thomas Malaby, a classical anthropologist who has recently begun study of virtual environments, has noted that his own stance on such issues has shifted over time as he has become increasingly intimate with the spaces he studies:

Anthropologists are not expected to disclose to participants in public spaces what they're doing, nor should they hide it if asked... Where the line is drawn is constituted by local practice and expectations. So, for example, if I treated someone to coffee in Greece, I felt that the moral relationship this implied called for disclosure of what I was doing there. The question I find fascinating...is when do we think one's relationship with one's subjects in virtual worlds similarly changes to a reciprocally moral one; that is, how do

we know when we've crossed a boundary of intimacy where ethical concerns about open disclosure apply? There is no universal standard for this; it has to be worked out for every new space. Before I knew *World of Warcraft* well I used to think, for example, that joining a group for an instance run meant a sufficient crossing of the boundary from anonymous public to morally-informed group that one was ethically bound to reveal one's status as researcher. Now I'm not so sure (Malaby, 2006).

As T.L. Taylor has observed, within the various dilemmas also lies an opportunity to draw upon the best guidelines for traditional social science research, but re-worked and re-framed to accommodate the attitudes and expectations of those participants inhabiting new digital spaces:

Although questions of plurality, anonymity and reliability often arise in some form with non-Internet-based work, I would suggest that the experience of online life and virtual worlds in particular nonetheless have a profound way of reshaping the terms that research are actually engaged in with many participants. Recognizing and using these issues to a projects' benefit is an important part of such a study (Taylor, 1999).

Ultimately, this project adheres to established guidelines outlining professional responsibility and ethical conduct for this type of research, including responsibility to enrolled participants with respect to their possible desire for anonymity and their ability to review materials to be included in the final thesis. In the case of peripheral participants, i.e. other players/residents in the virtual spaces covered by this research, I have exercised my best judgment in determining how the player was likely to feel about the inclusion of their contributions, for instance if they were in a group that I or one of my participants played with and therefore had their words captured via chat logging, or a depiction of an avatar captured in a screenshot. Lisbeth Klastrup grappled with this issue in her research, as well. She readily admits that she has 'taken the liberty of logging people's interactions without their consent' and chosen to publish those results by changing handles to guarantee anonymity. The words are public, but they are never specifically attributed to an individual.

Furthermore, she rationalizes this approach by suggesting that if a chat logging function is available in a game, players 'implicitly consent' to logging by playing a game where logging is part of the interface (Klastrup, 2004). While the subtleties of this argument could be debated, it certainly seems that the community has accepted that chat in public or semi-public spaces is fair research game, so long as game handles are changed to guarantee double anonymity (the handle itself already masks the real life person, but changing the handle also protects the virtual persona).

My approach has been to informally survey groups that I have played with, periodically disclosing my role as a researcher and asking group members how they felt about it and my chat logging activities. Following is an excerpt from an interview conducted with me by a research team looking at the ways in which virtual world's research is conducted. The methodologies and ethical considerations are in a state of dynamic evolution, and scholars' statuses as gamers have introduced a whole new set of questions about ethical approaches and limits or opportunities for research. As an anthropologist my approach is very organic and a bit like following my nose. Establishing camaraderie with other players was key to my success. Outside of screenshots (frankly too difficult to change), handles have been changed in the findings unless explicitly told otherwise, and the inclusion of private conversations has been limited unless permission was sought from the participant. For instance, I had a very interesting but private conversation in *Second Life* with a virtual prostitute about sexual practices therein, but because of the sensitivity of the subject matter I have chosen not to include it, even if I were to go to vast lengths to anonymise the conversation. In the vast majority of cases, the inclusion of some specific comments in a less private spaces were simply illustrative of larger trends, and unlikely to garner any negative reactions from players. Interestingly, I have had an opportunity to debate my approach with many other researchers and find that many of us are grappling with the same dilemmas. During the course of this study, I was contacted by Heidi McKee of Miami University and James E. Porter of Michigan State University who interviewed me for a study they were running called The Ethics of Digital Writing Research. They were interested in analyzing and classifying the various ethical dilemmas encountered by researchers in this arena. From the



feedback they gave me during our conversation, it was clear that my concerns, rationale and approach are typical. However I expect this to be a continually evolving area of discussion. The following is an excerpt from my interview with them.

Very early on [when getting IRB approval], Thomas Malaby and I had a talk when I was putting together my original ethics application. He had said, “Absolutely. You should disclose in your profile that you’re a researcher,” whereas my supervisors [at my university] were saying, “No, you shouldn’t.” They were coming from this paradigm that thinks people disclose less when they know you’re a researcher. But what I’ve found is that people disclose more when they know you’re a researcher (Porter 2008).

There has never been a negative reaction to my interventions as a researcher. Otherwise I have generally not disclosed my role as a researcher unless I decided to engage a particular player further and wanted to establish a more permanent contact like an e-mail address in case I would like to request an interview in the future. An interesting note here about a possible observer effect: while I cannot prove this empirically, it is my belief that players did not change their behaviour significantly after being told that I was a researcher, except in one respect: they did begin to be more communicative with me, offering opinions and anecdotes that they felt might be helpful. So in many cases, it seemed that the danger of an “observer effect” was strongly outweighed by the greater access and visibility my disclosure allowed. This is particularly important in a virtual environment where there is little to observe beyond how players control their avatars and what they choose to say in the text-based chat.

I also related to Porter and McKee (2008) some specifics of my interactions with players and how I attempted to follow up with them:

I’d just be playing and leveling characters and going about my business and then an opportunity would arise where something interesting would be said or a particular player would emerge who would be quite interesting. There

was, for example, one girl we had been playing with for about three hours, and I noticed that she hadn't been chatting. When I clicked on her profile I noticed that she was Japanese and it said in her profile that she didn't speak English. So I chatted to her and sure enough she didn't actually speak any English. This has been an example I've used in presentations I've done, how amazing it is to me how you cannot share a common language in this environment, yet she functioned perfectly well in the group by understanding semiotic clues. None of us knew that she wasn't engaged in the conversation—I just noticed after three hours playing with her that she hadn't said anything. I immediately started trying to talk with her and told her I was a researcher. So it was that sort of thing—at certain points I'd reveal myself as a researcher and ask if be okay to contact them later (Porter 2008).

#### **4.5 Procedure**

Phase One: Informant Interviews and Context-setting:

The first phase of my research was a context-setting exercise, meant to give direction to my research and allow me to develop an internalised and holistic view of game-play world-wide. In traditional ethnographic terms this could be considered the survey period in which ethnographers typically 'learn the basics: the native language, the kinship ties, census information, historical data, and the basic structure and function of the culture under study for the months to come' (Fetterman, 1998). The culture I was to study was the global phenomenon of participation in virtual worlds. The language, kinship, history, structure and function are unique to that culture, yet defined by the participation of a range of individuals in varying roles from across the globe, and contextualized by the physical and geo-political spaces they find themselves in.

From May 2005 – October 2005, I travelled to twelve countries, from New Zealand to the U.S., Canada, Denmark, Ireland, the Czech Republic, Hungary, Italy, China, Japan, South Korea and Thailand. The purpose of this trip was to observe as much as possible the role of digital games in each culture and talk with as many potential informants as possible. I accomplished these tasks readily, but perhaps the most important aspect of this journey was that I began to better understand the 'multi-

layered and inter-related context' in which digital game play occurs (Fetterman, 1998). As typified by most initial fieldwork, I read local newspapers and magazines, conducted meta-ethnographic research on digital game issues and trends, and generally attempted to develop a greater understanding of the various cultures. The trip also allowed me to meet informants in person, and allowed me to view how game play was situated in their lives. Specifically, Phase One involved the following activities:

#### Informant Interviews:

The early stage of the project involved interviews with game developers, educators, researchers and players who had relevant perspectives on the subject of virtual worlds, learning communities, massively multiplayer games, research design and group dynamics. I conducted over 35 interviews in all, both by phone and face-to-face. My intent in this process was to cast as wide a net as possible in an attempt to build a 360-degree view of the phenomenon of play in virtual worlds. With this goal in mind, I sought out a range of individuals using both my informal social networks and formal channels. The interviewees fell into the following categories:

Academics: I contacted a number of games studies and education/learning scholars and had formal and informal conversations with them about virtual worlds and potential research in this area.

- Number of interviews: 10
- Locations: Christchurch, New Zealand; New Orleans, LA, USA; Copenhagen, Denmark; Tokyo, Japan; USA (by phone)
- Interviews with academics were almost completely unstructured and based on their specific areas of expertise.

Players: I did not limit myself to players of a particular game or particular genre, but spoke to a variety of players covering a range of games. Many of these interviews were conducted in-

person or by phone, and I often had occasion to observe game play in an unstructured, exploratory fashion, as well, therefore exposing me to worlds about which I had little prior knowledge.

- Number of interviews: 11

- Locations: Christchurch, New Zealand; New Orleans, LA, USA; Copenhagen, Denmark; Tokyo, Japan; California, USA

Developers: I sought out the developer of the two related games that were to become my core subjects, but I also spoke to other MMO developers around the world, including those involved in the design and development of traditional Western MMOs, mobile MMOs, Asian MMOs and social worlds. I also spoke with developers who currently have games in production, but that have not yet launched (like former *Star Trek Online* producer Daron Stinnett, who is no longer working on the game as his studio's contract was terminated and the project given to Cryptic Studios).

- Number of interviews: 7

- Locations: California, USA; Tokyo, Japan

Questions for developers/publishers (not all questions were asked of all interviewees):

Publishers: As the relationship is often complex between developer and publisher, I also spoke with publishers who handled the community management aspects of game maintenance.

- Number of interviews: 6

- Locations: Texas, USA (by phone); Seoul, Korea; Tokyo, Japan

- See developer/publisher questions in Appendix B

Fan site Editors: Unlike Western countries that to varying degrees set up direct communications channels with their players, the relationship to players in Asia is mediated by fan sites. I had the opportunity to interview one Korean fan site and better understand their relationship both to the players and to the publisher.

- Number of interviews: 1

- Location: Seoul, Korea

- Unstructured interview

#### Observation: Internet and Game Cafes:

While travelling in Australasia, Europe and North America, I took any opportunity to observe and photograph game play and game play artefacts in public spaces, from arcades to net cafes (PC Bangs in Korea), to other public venues like public e-Sports locations and mobile game stations, plus a variety of game events and conferences including the Tokyo Game Show. This observation gave me access to a greater understanding of the cultural context in which game play occurs. I did talk informally with some players, but found that accessing players while they were in the midst of game play could be quite difficult, especially when there was a language barrier to contend with. Still, it was a beneficial experience in terms of understanding the broader context of game play, particularly as I was able to see both similarities and startling differences as I travelled from location to location.

#### Participant Observation: Virtual Worlds and Meta-worlds:

In the initial period of fieldwork, participant observation in various virtual worlds was an important component, helping to establish the primary themes for later research, and developing a deep and broad-ranging understanding of the various socio-cultural structures and adaptations. Specifically, several worlds were monitored for knowledge sharing practices, both formalised and informal, to better understand how knowledge is shared (in-game chat, audio conferencing, IM, telephone, in-person, etc.). After an initial period of observation in several worlds, I selected *City of Heroes/City of Villains* as my primary research environments, but continued to visit other environments, quite often as a player, but gathering data when relevant. I also continued to read widely about games and virtual worlds.

#### Meta-world Artefact Harvesting

The research also involved an ongoing process of collecting commentary, forum posts, screenshots and other artefacts that illuminate the complexities of the meta-worlds surrounding various virtual worlds.

#### Phase Two: City of Heroes/City of Villains

Participant observation in City of Heroes/City of Villains continued in the second phase, with periodic forays into other relevant virtual worlds, as well. There were two stages of research within this phase of the project. While my own participant observation activities continued, I also collaborated with NCSoft and Cryptic Studios to develop and administer a survey addressing various quantitative and qualitative dimensions (see Appendix C). Participants were recruited online. At the end of the survey, respondents could indicate whether they wished to be contacted for information about further stages of research. The results of this survey directly informed the design, conduct and analysis of results for the remaining stages of research. In addition, I conducted interviews with an additional ten participants who had responded to the survey, via in-game chat, IM, and/or email.

Participants were asked to give consent for their participation for each of these stages.

The phased approach was an invaluable asset in designing the research methodology. Rather than starting with a concrete methodology, early participant observation and an informant interview process helped to shape the issues and illuminate the areas for further research. Along the way, the specific ethnographic approach has been considered and re-considered within the context of both offline and online ethnographic work. As I am a gamer first and a researcher second, a reflexive approach to the research allows me, as researcher, to observe and make explicit my role as a gamer. Like other researchers in this area (Steinkuehler 2004, etc.) I am both observer and participant in my study:

To be reflexive, in terms of a work of anthropology, is to insist that anthropologists systematically and rigorously reveal their methods and themselves as an instrument of data generation and reflect upon how the medium through which they transmit their work predisposes readers/viewers to construct the meaning of the work in certain ways (Ruby, 2000).

This approach requires a degree of explicit self-awareness that I only developed over time. My earliest notes only contained references to other participants, as I had the view that my role as participant was merely a mechanism to facilitate my observation of others. Lilia Efimova's own journey towards reflexivity was instrumental in helping me to change this view. Unlike traditional ethnographic endeavours, she and I share in common that we are native to the environments we study, possessing 'the qualities of other permanent self-identification with a group and full internal membership, as recognised by themselves and the people of whom they are part' [Hayano, 1979:100]. Our respective roles as researchers are influenced by our feelings and attachments to the environments, but our training as ethnographers allows us to distance ourselves and achieve a meta-view of ourselves as participants, as well. This epiphany allows me to add another significant dimension to this work, but did require that I change my approach to recording my

observations, reflexively documenting my experiences and feelings in addition to those of other players and participants.

## **Participant Recruitment**

Participants were recruited via the initial survey which was promoted online. A subset of survey respondents were selected for the follow-up methods and over 80% provided email addresses to be contacted for follow-up. Participants were asked for their informed consent at all stages of the project. If they were under the age of 18, their parent or guardian was required to agree to their participation. A general information page was also available on the researcher's website.

### **1. Survey**

Participants were recruited within the game and on fan sites and mailing lists. The publisher of *City of Heroes/City of Villains*, NCSoft, was also willing to help promote the survey. Once recruited, participants were directed to a website with further information and full disclosures about the project. Participants enrolled in the study via the website, completing a consent form prior to beginning the survey

### **2. Interviews**

Participants were e-mailed the appropriate consent form and asked to indicate their willingness to participate via e-mail. I then conducted a handful of interviews in-game and via IM (participants widely found this to be the preferred method of conducting these interviews)



## **Participant Procedure**

The initial activity was a survey with two purposes: to gather quantitative and qualitative data about game play and to identify participants for additional research:

### **Survey:**

A quantitative and qualitative survey involving fifty questions was the first participant activity. The survey covered demographics, game play behaviour, frequency, social habits and willingness to participate further. The survey ran for a period of three weeks then closed. For the purposes of this research, I analyzed a random sub-sample of approximately 200 surveys, looking to those that offer the most qualitative data in the form of answers to a variety of open-ended questions, from occupation to ethnicity, as well as comments regarding the game specific responses. Following is a sample of responses to

the query 'what is your occupation'?

<a href="#">126</a>	Truck Driver
<a href="#">127</a>	information technology
<a href="#">128</a>	Sudent/Food Service
<a href="#">129</a>	Student
<a href="#">130</a>	graphic designer
<a href="#">131</a>	machinist
<a href="#">132</a>	Stay at home mom
<a href="#">133</a>	Filmmaker
<a href="#">134</a>	Financial Analyst for a bank
<a href="#">136</a>	unemployed disabled
<a href="#">137</a>	Admin Assistant at a Mental Health Hospital
<a href="#">138</a>	Student
<a href="#">139</a>	Student
<a href="#">140</a>	none
<a href="#">141</a>	None
<a href="#">142</a>	Software Developer
<a href="#">143</a>	A+P Mechanic/ Police Dispatcher
<a href="#">144</a>	Student/Flood Researcher
<a href="#">145</a>	Astronaut
<a href="#">146</a>	IT
<a href="#">147</a>	Media/TV Production
<a href="#">148</a>	Software Test Engineer
<a href="#">149</a>	admin assistant
<a href="#">150</a>	Business owner
<a href="#">151</a>	Business Professional
<a href="#">153</a>	Photo Lab
<a href="#">154</a>	unemployed
<a href="#">155</a>	Student
<a href="#">156</a>	Cook
<a href="#">157</a>	Student
<a href="#">158</a>	Retired
<a href="#">159</a>	Casino Services
<a href="#">160</a>	Mananger at petsmart
<a href="#">161</a>	Technical Support
<a href="#">162</a>	Database Manager
<a href="#">163</a>	Electrician
<a href="#">164</a>	Computer Programmer
<a href="#">165</a>	Software Engineer
<a href="#">166</a>	Underwriter

**Figure 30 – List of occupations of participants**

From this survey pool, ten participants were selected for further interviews, based on their stated willingness to participate further. In order to avoid focussing too heavily on the extraordinary, participants were selected to guarantee a spread of demographic profiles, game play styles, frequency of play, social habits, i.e. a representative spread of those who participated in the survey.

The results of the survey were used to inform specific interview questions.

## **2. Interviews:**

Interviews were conducted primarily by in-game chat or instant messaging to explore in greater depth some of the data illuminated by the participants' survey responses. Most of the questions were unstructured and open-ended, allowing participants to recount specific anecdotes and reflect on their playing experiences. In some cases, interviews were conducted face-to-face or via e-mail, based on participant preferences and logistics.

Interview questions were determined based on questionnaire results. In general terms they helped focus the findings by further exploring social behaviours, playing styles, grouping behaviour, in-game learning activities, transfer of skills to real life, etc.

It is always preferable to interview participants face-to-face, but interviews were conducted by phone as the second preference or by e-mail if other methods failed. Face-to-face and phone interviews were digitally recorded with the participants' consent. Audio of the interview was made available to the participant.

## **3. Game chat logging:**

Interviewees collected their automated game logs and e-mailed them to the researcher. This allowed the researcher to present snapshots in time that illustrate certain facets of the findings. Some participants only provided logs from one or two play sessions, while others provided logs over a period of

weeks. One participant accompanied his log with a personal journal that he kept of his own volition.

#### **4.6 Treatment of Results**

The very nature of ethnographic research requires data analysis throughout all phases of a study. Each new set of data is analyzed and in turn informs the next stage of data collection, often in terms of what requires closer observation, or which areas might warrant greater exploration with participants. There is seldom a formalised process for data analysis, though some efforts have been made over the years to formalise the ethnographic approach (Sierhuis, 1996, etc.). The following chapters include significant data from both the physical and virtual fieldwork I conducted, as well as the results of the survey.

In terms of analysis, the approach to ethnographic data is less systematic and more typically an exercise in organisation and synthesis, often directed by the researcher's hypotheses and intuition. Data from interviews, field notes and surveys must be read through regularly, as new insights often emerge at different stages of the project. Patterns, connections, similarities and contrastive points must be documented; coding can be an effective method to use in finding these relationships (Hammersley & Atkinson, 1995). But perhaps the most important aspect of this type of data analysis is the process of triangulation: looking for evidence of a particular finding or trend across multiple sources. 'One articulate individual may provide a wealth of valuable information. The ethnographer must then cross-check, compare and triangulate this information before it becomes a foundation upon which to build a knowledge-base' (Fetterman, 1998).

One of the things that were very useful about my role as a player is that I also have a strong intuitive sense of whether a point is valid, and whether it is generalisable based on my other experiences and data points. Often what emerged as a strong epiphany was something that resonated intuitively and was articulated or illustrated

quite effectively. As much as possible I have tried to include these types of examples, but of course have only been able to present a small subset of the vast mountains of data I have collected over this period. Still, it is my hope that my synthesis, rooted in my deep experience as a gamer and member of our emerging digital culture, will be regarded less as an isolated study and more as an example of the changes that are emerging from play in digital spaces.

It had not been my intention to develop a theory or even a particularly strong framework, but with such a significant amount of data to work with, I found that developing a grounded theory was extremely appealing. According to ethnographer Kathy Charmaz (2006), a grounded theory is,

‘A method of conducting qualitative research that focuses on creating conceptual frameworks or theories through building inductive analysis from the data. Hence the analytic categories are directly ‘grounded’ in the data. This method is distinguished from others since it involves the researcher in data analysis while collecting data - we use this data analysis to inform and shape further data collection. Thus, the sharp distinction between data collection and analysis phases of traditional research is intentionally blurred in grounded theory studies. (p.187)

This is a body of data to be built upon, and to inspire other work in this area, including some formal empirical studies that might be able to more definitively outline the learning that occurs in digital game spaces. Instead this project and associated thesis should be considered a typical anthropological monograph with applications in understanding new media and emerging patterns of learning and literacy. As I see it, I have documented a particular culture at a particular point and time in its history, and have attempted to capture something that might otherwise be lost. *City of Heroes* and *City of Villains* are now games that are waning. It is likely that in 2 years the servers will have been unplugged and players will have moved onto a new game experience (even now the publishers and developers of both games are working on their next projects, and the Co X is more or less on auto-pilot). It was clear that this was inevitable, and because *City of Heroes* and *City of Villains* are digital spaces with a warm and supporting learning culture, I felt it was important

to document them. It should also be a useful point for comparison as scholars conduct studies of other MMO spaces.

Other researchers should also be aware of the reflexive stance I have taken in writing this thesis. This project was a journey of learning as much for me as for anyone who might read it. My initial fieldwork interviewing and observing gamers and scholars in person allowed me to make much more intelligent decisions about the format of my study. I highly recommend this multi-phased, iterative approach to anyone conducting this sort of research.

I should also be clear that the significant body of data I serendipitously collected during this study has barely been tapped, and I will continue to work with it over the next year or two. In addition, I have offered to give the data to a team of researchers who are focused on the multi-cultural facets of MMO data, and am certainly open to sharing with researchers who wish to peruse the data from other angles, as well. At some point I am hoping to create a segmentation of MMO players that can be used by the industry, and I might re-contact some of my participants to see if they would be willing to participate in additional research projects, perhaps ones whose results might actually funnel back into the games and learning games industries.

In the following chapters I integrate the various findings from all phases of the research project with the goal of clarifying that player experiences are rich, meaningful and involve considerable learning of the informal variety.

## **Chapter 5:**

### **Learning to Cooperate in Virtual Worlds**

We must be willing to learn the lesson that cooperation may imply compromise, but if it brings a world advance it is a gain for each individual nation.

- Eleanor Roosevelt

#### **5.1 Introduction**

One of the main issues with conducting digital game research of any sort is that there are many misconceptions and some dogmatic posturing based on 'conventional wisdom', but little primary research. For instance, it is frequently taken for granted that digital games consist entirely of competitive activity, yet cooperative practices in emergent socially-oriented game environments have increasingly become the norm. This cooperation, while widespread, stems from a variety of motivations and presents itself in guises ranging from altruistic cooperative play to self-serving play, all situated within the contexts of the unique and durable cultures and game play styles that emerge from game design decisions that rely on a 'scarcity of resources and game mechanics to replicate an out-of-Eden experience, a place where love-hate relationships among players are born' (Castronova, 2005, p. 115). In *The Evolution of Cooperation*, Robert Axelrod suggests that civilization is based on cooperation yet habits and practices of cooperation are obviated by the regulations of centralized institutions. He suggests that studying 'individuals who pursue their own self-interest without the aid of central authority to force them to cooperate with each other' might help illuminate motivations to work together to achieve shared goals (Axelrod, 1985, p. 6). This chapter is concerned

with how cooperation is reflected in online gaming spaces where win conditions occupy intersections of designer intent and individual player goals.

As I have mentioned in earlier chapters, cooperation is critical in virtual world environments because of their dynamic nature; no one person can possibly keep up with all of the ongoing changes to these worlds, either those enacted by the developers or simply the result of community activity. The fact that the worlds are in flux means that any documentation is by definition ephemeral. As such, players soon learn that they are better off relying on one another for help, and find that asking questions of other players is frequently the most efficient route to a reliable answer. Some of the most basic examples of cooperation include asking for and giving directions (Figure 11). This was more necessary early in the game's life, when important locations were not visible via overhead maps, yet the custom still persists. Though this is an acceptable practice within the context of most of the communities, occasionally players respond with irritation, especially when a player makes a habit of asking simple questions repeatedly, but when used judiciously this predisposition is usually accepted. This is, however, like many others, a fine line.





**Figure 11. In *City of Villains*, Creature asks where the costume store and Black Zephyr offers a reply. In this case they are members of the same team and using the [Team] chat channel to communicate.**

Within this research project, the criticality of cooperation underscores a variety of factors, including the nature of grouping, etiquette, camaraderie and other social constructs. Many games, including massively multiplayer online games, have certain game mechanics in place that encourage cooperation among players in ways that may be otherwise missing from players' lives. For some players this may be a driving force behind their desire to participate: these games represent an opportunity to contribute to collective endeavours, and to achieve confidence and recognition in the process.

What is a game? It is a set of predefined tests designed to bring people together for a common goal in an immersive world setting that inspires imagination, teamwork, and cooperation to complete a set goal. You need strategy, tactics, perseverance, and many other traits in order to have fun and be successful. I like to help people and like to have fun since my real life sucks at the moment due to world situations, and my job keeps me from having/keeping relationships.

– Male *City of Heroes/City of Villains/Dark Age of Camelot/Eve Online/Everquest/Star Wars: Galaxies/Ultima Online/World of Warcraft* player,  
Military Policeman, Age 25-39, North Dakota, USA

For this player, having fun and helping people were closely aligned. Well beyond the satisfaction of competition, the point of the game for him is teamwork and cooperation. However, for many other players, cooperation comes at a price; it is a necessary component of the massively multiplayer experience, at least at the higher levels, yet it is not always the most immediately efficient way of achieving individual player goals. Sometimes players even resent being forced to team:

I am very pro SOLO in games and resent forced teaming, though I enjoy teaming when it is \*MY CHOICE\*.

– Caucasian Female *City of Heroes/City of Villains/Guild Wars* player,  
Programmer, age 40-54, Oregon U.S.A.

One of the more compelling aspects of these environments is that they allow multiple games to be played: the basic game intended by the designers, and the games whose rules involve successfully navigating the myriad permutations that arise from social structures that emerge spontaneously from otherwise simple game mechanics. It is precisely the complexity that arises from a relatively simple set of constructs that makes the game appealing for many: take a simple game, add people to the mix and what emerges is an experience that is quite different from playing a single player game, even one with quite sophisticated artificial intelligence (AI):

Playing against other people is an entirely different experience. The unpredictability of a human mind as opposed to computer A.I. means that you will rarely have the same fight twice.

– Male *City of Heroes/City of Villains/Eve Online, Planetside, Saga of Ryzom, World of Warcraft* player, Student, Age 14-18, Swansea, Wales.

As a note, respondents to the survey were predominantly male, but there was a fairly good distribution across age:

Field Summary for 2:		
2. What is your gender?		
Answer	Count	Percentage
No answer	0	0.00%
Female (F)	1183	12.10%
Male (M)	8594	87.90%

Field Summary for 3:		
3. What is your age group?		

Answer	Count	Percentage
No answer	52	0.53%
Under 13 (1)	85	0.87%
14-18 (2)	1165	11.92%
19-24 (3)	2049	20.96%
25-39 (4)	5243	53.63%
40-54 (5)	1109	11.34%
55 or older (6)	74	0.76%

Although this thesis is not concerned with issues of age and gender per se, it was an interesting surprise to see significant differences in approaches to game play, amount of time spent playing, and with whom, across age and gender. In many respects my study validated the work of other researchers like Nick Yee, who has conducted a multi-year longitudinal research study of tens of thousands of gamers who have participated in his Daedalus Project (Yee, 2008). I will be addressing these nuances throughout the thesis as they appear relevant. Those that Takyoshi (2007) refers to as ‘gaming women’ frequently have long histories as gamers and are notable contributors in MMO environments. It would be fair to say that though the numbers of women are relatively few, those who contribute do so profoundly and with a certain ethos regarding team-work, collaboration, and other themes to be explored in this thesis. Similarly, older players demonstrate a maturity and collaborative perspective often absent from teen-players who insist that the gaming experience, whilst it might take up a considerable amount of their life over a period of years, and include some of the deepest friendships the teen has known, is ‘just a game’.

## 5.2 Basic Grouping Structures

At the most basic level, MMOGs are games that encourage grouping with others to achieve mutually desirable goals. One of the key differences I found amongst the various games I evaluated is the degree to which they allow players to quickly and easily find other players to group with. The longstanding convention for such behaviours has been the use of a public chat channel to publicize one's interest in finding a group. The acronym LFG [Looking for Group] is frequently used, along with broadcasting one's level and the specific task the player is hoping to accomplish. Some games take this a step further with a dedicated chat channel for grouping requests. However the MMOGs *Star Wars: Galaxies* and *City of Heroes/City of Villains* are notable because of the efforts that developers have made to create mechanisms that allow players to quickly and easily find one another. In *Star Wars: Galaxies*, however, this matchmaking function, while present, relied on criteria related to one's physical characteristics and interests, and was not widely used. The assumption was that players would want to group with others like them, but this is not the case. Instead players want to group with others who play like them. Whether they have anything in common is largely immaterial, although issues of geography, etc. have practical implications in terms of when players are available. Otherwise, as suggested by the 'strength of weak ties' arguments, players enjoy interacting with people who are quite different from themselves.



**Figure 12.** In *City of Heroes/City of Villains*, players can set a preference that they are looking for a team to join. Other players can then invite them to the team. Most players report that this mechanism works exceptionally well; even the least social players can usually find a group to play with, often within minutes of broadcasting one's interest.

When a group finds that it works well together, but eventually has to break up as players leave their play sessions, it is commonplace for players to thank one another, add each other to friends' lists (sometimes a global list that spans characters and servers), and sometimes to even decide to take on a longer term affiliation, often within the game but sometimes outside of it as well:

Sometimes, on some MMOs I make a long-term enough of a friend to add him to a contact list on an instant messenger - Which games my more "long term" friends influence which games I buy - I actually was introduced to *City of Villains* through this manner.

– Caucasian male, *City of Heroes/City of Villains/Guild Wars/Sims Online/Ultima Online/World of Warcraft* player, High School Student, Age 14-18, Washington, U.S.A

One of the more common methods for longer-term affiliation, especially for those who choose to maintain their interactions in game, are acts of joining large groups termed guilds in some games, but called super groups in *City of Heroes/City of Villains*. Sometimes this happens somewhat randomly, especially when a super group is in a recruitment mode. In the following excerpt, one of my characters, Lux Luminari, was recruited to be part of a super group the other player was considering starting once he had achieved the required level:

Cerulean: Nice costume

Lux Luminari: ah thanks!

Cerulean: I am starting a super group

Cerulean: tomorrow

Cerulean: for serious players only

Lux Luminari: cool

Cerulean: are you interested.. I can add you to my pending super group potential

Lux Luminari: don't we have to be level 10?

Lux Luminari: that'd be cool...

Cerulean: I have 7 serious super heroes lined up

Cerulean: group missions are much better

Lux Luminari: yeah sounds fun

Cerulean: Lux, I will add you okay, ..we will need you

Lux Luminari: sure. cool

Cerulean: Talk to you later. ..keep levelling!

Other super groups are considered quite desirable, and may have some sort of application process. The Sisterhood, a female-characters-only (the gender of the person behind the avatar is unimportant) super group in *City of Villains*, requires would-be group members to introduce themselves on an external (to the game) super group website. Often they are encouraged to do this after a successful pick-up group, but sending new recruits to the website also accomplishes the goal of exposing them to the group's stated culture and rules. Sometimes these rules are explicit, as in the case of many super groups. In other cases there are de facto standards for behaviour that are passed from one player to another.

In terms of real life relationships, players are interacting with a wide range of individuals. This was the one area to have had a considerable gender/age difference (also found by Yee, 2005). In my study:

Field Summary for 9: FEMALES		
9. Whom do you play with?		
Answer	Count	Percentage
Co-workers (7)	110	9.30%
Family members (5)	504	42.60%
In-game acquaintances (4)	792	66.95%
In-game friends (3)	824	69.65%
Other players (not friends nor acquaintances) (8)	607	51.31%
Real life friends (1)	684	57.82%
Romantic partners (6)	472	39.90%

Other	Browse	12	1.01%
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01%

### 5.3 Etiquette

Like any Internet-related venues, virtual worlds struggle to maintain a balance between the disparate needs of various players, and what emerges 'is a clear attempt to guide new users in the appropriate norms for behaviour' (Joinson, 2002, p. 45). However, as with many other phenomena in virtual worlds, these efforts are seldom explicit, but are instead the culmination of an evolutionary process of community trial and error. Through the process of legitimate peripheral participation, players learn how to behave by noting what other players respond positively to and what behaviours they themselves choose to either perpetuate or eschew. Certain social norms emerge very strongly and consistently, such as the practice of congratulating other players (typically by typing 'grats') when they reach a level (Figure 13).





**Figure 13.** In this screenshot taken in *City of Villains*, two players (including the one of my avatars, Cruel Summer) levelled their characters simultaneously and the team responded with a round of congratulations.

This norm is so well established that it borders on rude behaviour to not congratulate a player when they achieve a new level, though players will sometimes agree to stop congratulating each other when they are in situations (such as when they start new characters) in which everyone is levelling so quickly as to render the compliment largely irrelevant. Beyond a norm, this practice has become a custom, a pattern of habitual activity passed from one player to another<sup>24</sup>, complete with its own traditions and permutations, like alternate spellings of the term - 'gratz' – and other playful adherences.

Virtual world environments certainly function as microcosms of society, and are subject to the same group dynamics as any other human endeavour. Self-organization relies on a range of understood behaviour, and as such, certain norms

<sup>24</sup> <http://dictionary.reference.com/browse/custom>

emerge that encourage behaviour that makes the groups cohesive. Of course these norms are sometimes not consistently adopted across the entire population, as in the case of players who issue the invite to group command to other players to team without asking them first (a so-called 'blind invite' – see Figure 14. Blind invites are such an annoyance to some players that they will make their unwillingness to join a team in such a way part of their public search profiles.):

Few things annoy me more than "blind invites". If players send me a tell [a private communication] asking me, politely, if I would like to join them on a mission, I will likely join them. Players who go down the list of characters in a zone, blindly inviting everyone on the list, I think are rude. I have found that players who do that are also not the kind of players I want to play with anyway. They are often not courteous to other players in the group, they tend to be selfish and rude, and they are often not intelligent players (they run blindly into combat with no strategy and then complain when they die). They seem to make unreasonable demands of the other players ("keep me alive first"). They are also often "power gamers" [players focused on level their characters at all costs].

– Caucasian male, *City of Heroes/City of Villains/Everquest/Guild Wars/Star Wars: Galaxies* player, Television Production and Operations, age 25-39, North Dakota, U.S.A.



**Figure 14. 'Blind invites' are such an annoyance to some players that they will make their unwillingness to join a team in such a way part of their public search profile.**

Yet there is a body of acceptable etiquette that is determined by the prevailing game culture. For instance, several players have noted that *City of Villains*, with its superhero lore, encourages friendlier, more considerate play than other games, especially those with a strong player vs. player culture (PvP), where 'ganking' [abusing] other players is an acceptable part of the game play experience. It is often typical that player vs. environment (PVE) games inspire more cooperative play styles than the player vs. player (PvP) environments, even when the players are engaged in explicitly collaborative tasks:

I have noticed as time goes by and more in *City of Villains* than in *City of Villains* that game courtesy is less and less apparent... i.e. in game items frequently referred to as "blinkies" [a location where an item is hidden often blinks and emits a sound so that players can find it; some players call them 'glowies']... items need to complete a mission

that can only be interacted with by a single member of the team.... if it is your mission then the blinkies are left for that person..as time goes on more and more people will just run up and take the blinkie without asking first...

- Caucasian Male, *City of Heroes/City of Villains* Player, Dispatcher at a trucking company, age 40-54, Manitoba, Canada

While all players are in the game to ultimately achieve their own objectives, whatever those might be, players' sense of investment in the overall game ecosystem encourages them to participate in a larger gift economy. It is not uncommon for players (especially higher level ones) to gift other players currency or items that might be useful. In fact, it has been noted that players presenting themselves as female characters receive even more of these kinds of gifts<sup>25</sup>.

I like to help those who need it. I often have games in which I give prizes to newbies [new players] for finding me or a friend in a specific zone.

- New Zealand male, *City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Guild Wars /World of Warcraft* player, Student, Age 25-39, Auckland, New Zealand

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<sup>25</sup> <http://mmorpg.qj.net/Female-Impersonators-Abound-In-Online-Gaming/pg/49/aid/60300>



**Figure 15 – It is commonplace for players to trade items, and players will sometimes gift currency (in this case ‘Influence’) to be used for any purpose.**

In combination, these conventions create an atmosphere that the game is a cooperative and helpful place, and as such, players are encouraged to engage in cooperative behaviours themselves in order to further this aspect of the environment. Some players choose to mitigate any possibility of issues brought on by interactions with strangers by confining their play to friends and family.

My super groups are usually only filled with friends/family. I'm rather picky on who I invite in. I'd like to know they'll behave politely. I haven't joined any super groups, unless they were started by friends/family.

- New Zealand male, *City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Guild Wars /World of Warcraft* player, Student, Age 25-39, Auckland, New Zealand



This is especially true of female players, as they tend to experience more harassment generally, and they are also typically introduced to game-play via a relative or romantic partner. Female players are also frequently playing in physical proximity to their favored gaming partners:

Field Summary for 9: Females		
9. Whom do you play with?		
Answer	Count	Percentage
Co-workers (7)	110	9.30%
Family members (5)	504	42.60%
In-game acquaintances (4)	792	66.95%
In-game friends (3)	824	69.65%
Other players (not friends nor acquaintances) (8)	607	51.31%
Real life friends (1)	684	57.82%
Romantic partners (6)	472	39.90%
Other	12	1.01%

Field Summary for 10: Females		
10. If you play with real life friends, partners or family members, how often are you playing in physical proximity to each other?		
Answer	Count	Percentage
No answer	151	12.76%
Never (1)	183	15.47%
Seldom (2)	122	10.31%
Occasionally (3)	124	10.48%

Often (4)	116	9.81%
Frequently (5)	201	16.99%
Always (6)	286	24.18%

#### 5.4 Social Dilemmas and the Massively Multiplayer Game

An MMOG is a designed space where the developers have preconceived notions of how players will behave and receive the game. On the one hand, it is easy to fall into the trap of obsessing over game mechanics to affect player behaviour, assuming that players can be pushed into certain ways of playing and cooperating, steered by game mechanics alone. The mechanics can be manipulated to either force cooperation by requiring players to depend on others to accomplish in-game tasks or by presenting players with obvious rational choices where individual goals align with cooperative behaviour. On the flip side, one can assume that players will learn how to cooperate and that the act of helping each other out will emerge in player practice to fill in the emergent space between game rules and a living, breathing social system.

I'll often shepherd a herd of lowbie [low level] players through the sewers as a Hero, or stop to explain tactics and pet control [some classes of players have 'pets' they can control] to new Mastermind [a character class] players.

Native American male, *City of Heroes/City of Villains/Eve Online/World of Warcraft* player, Telecom Engineer, Age 25-39, Oklahoma, USA

In this case, rational choices are not always obvious but it is assumed that players will discover what works for them and the world will be a happy place when players realize that cooperation is key to everyone's success. Neither of these views is comprehensive enough, however. Economists schooled in game theory are known for positing a hypothetical social conundrum called the Prisoner's Dilemma in which two people are interrogated for committing a crime and given the choice of either

cooperating (by not giving the authorities any evidence against each other) or defecting (by betraying each other). Defecting is compelling because the authorities have promised to let whomever defects go free, provided the other prisoner does not also defect. To keep quiet about the crime only pays off if both partners choose to cooperate. The question to ask is: how much do these prisoners trust each other? These two-person situations are part of a larger pantheon of constructs called social dilemmas. Most social dilemmas, however, model situations with many actors, each given a choice of whether to contribute something to the community or 'free-ride'—benefiting from the community without them contributing anything. These models presuppose that people are likely to make the most 'rational' choice—cooperating or defecting based on which presents the biggest individual payoff.

What is clear is that one's choice to cooperate or defect is not made in a vacuum. It depends on existing social relationships between actors and may be motivated by either short term or long term gain. In player communities, social relationships, whether weak or strong, exist in situated, historical, and political contexts. In MMOGs, interdependence between players is built deliberately into the game mechanics, and there is a necessary predilection to cooperate as 'the structurally embedded need to cooperate opens a series of mutual dependencies and vulnerabilities that render reputation and trust crucial for fully participating in the game' (Smith, 2006, p. 168). However, as in the case of many classic social dilemmas (c.f., Hardin, 1968 and Felkins, 2001), including Garrett Hardin's tragedy of the commons, this cooperation exists as a state of fragile balance between the motivations of the individual and the good of the communities to which he or she claims membership. A player's motivation to serve the needs of the group might only extend as far as support of the group in turn helps him or her meet individual goals, such as participating in a group raid in order to receive loot. In fact, the games are designed such that there is often little downside to cooperation except for the work involved in forming social relations. Looking at game mechanics and systems to guess how players will behave can lead one to suppose that changing the rules of a game can encourage cooperation within situations that resemble social dilemmas. Actual player behaviour, however, is complex, and some players' goals don't match



up to game system goals. As Axelrod notes, trust may be important to some, but for others trust might be less of a case of individual trust as it is trust in a system that is set up to foster cooperation:

The foundation of cooperation is not really trust, but the durability of the relationship...Whether the players trust each other or not is less important in the long run than whether the conditions are ripe for them to build a stable pattern of cooperation with each other (Axelrod, 1997, p. 182).

In this case, as long as the game fosters an overall sense of cooperation, most players can expect that some players within the system can be trusted to exhibit altruistic or cooperative behaviours. Ascertaining whether this is the case is a matter of knowing other players sufficiently so that motivations can be anticipated. In this sense, cooperation is situated in the relationships that players build over time.

As observations in MMOGs make readily apparent, building a stable pattern can be fraught with difficulty as players attempt to synchronize motivations and play styles that are sometimes fundamentally in conflict (Taylor, 2006). This is further complicated by the fact that players can join and leave groups freely, with little technical hindrance and few (initial) barriers to participation. Individuals can play a range of characters who influence their groups in a variety of ways and give them many possible avenues for participation, as fighters, crafters, healers, and other supporters, each demonstrating different approaches to cooperation. Players may seek 'collective and communal identities' (Filiciak, 2003), but they do so in a fluid, often unpredictable way. The manner in which social groupings occur in MMOGs magnifies this effect. No one is assigned to groups by a central authority. There are few explicit rules, other than party or group size, for how groups must be structured. Instead groups emerge in an entirely decentralized and self-organized way, through a process of negotiation between players, based on emergent norms and relationships, as well as prevailing wisdom regarding the best combination of players for a given endeavour. In MMOGs like *City of Heroes/City of Villains*, the matchmaking functionality within the game is sufficiently evolved that pick-up groups, rather than longer term group affiliations, are commonplace. As such, the

process of finding gaming partners is an ongoing exercise in discovery and negotiation; players may initially think that their play style meshes with a group they have joined, only to find that there are fundamental, and often irreconcilable, differences in approaches to the games and what constitutes winning in the minds of disparate players. Even if player agendas are in conflict, it's critical for all to have 'the ability to recognize the other player from past interactions, and to remember the relevant features of those interactions' in order to sustain cooperation (Axelrod, p. 139).



**Figure 16.** In the game *Guild Wars*, players often gather to watch each other dance, as the beauty and complexity of the possible dance movements spawns a type of emergent play.

The key characteristic of emergent game environments like MMOGs is that they do not present one game to be played, but offer a platform upon which a variety of play permutations and game play styles can be explored, some of which are not explicitly

focused on the game (Figure 16). Bartle's player types (1996) and Yee's facets (2002) reflect the tendency for players to engage in a range of play, from high-achievement oriented play focused on maximizing experience points, for example, to loose, socially oriented play that demonstrates little concern for achievement beyond what it allows one to contribute to group endeavours. There is even transgressive play that is decidedly not cooperative, with some players reveling in disrupting the activities of others. And as Smith (2006) describes in his doctoral dissertation and Taylor (2006) in her book on the practices of *Everquest* players, digital game goals, as outlined by designers, create a complexly nuanced context that shape player behaviour in a variety of ways—some intentional, others not. In MMOGs, the question of whether 'players seek to win' is highly dependent on individual perspectives on what constitutes winning. This can mean success in competitive, semi-cooperative, or cooperative play (Smith, 2006). Players may not win according to obvious or official measures, but they achieve a degree of personal satisfaction that can be perceived as winning (and certainly within the context of a desired neuro-chemical response would qualify as such), according to the definition they choose to employ.

### **5.5 Cooperation in Practice**

I have observed varying manifestations of cooperative behaviour in naturally situated contexts, ranging from self-serving to community-oriented modes of cooperation that frequently exist along a trajectory towards altruism, particularly as players fulfill the self-serving game goals of leveling individual characters and collecting loot. Guild formation and management are also explored within the context of sustaining online communities (Kollock & Smith, 1996) and how player expectations and game play preferences can lead to either cohesion or conflict. When a player is in sync with the proclivities of a group or community, the result can be quite satisfying for all involved as individual concerns dovetail with those of the group. However, when those motivations are in conflict and certain ones are normalized, marginalization or oppression can occur (Freire, 2000), factors that are certainly integral to the dissolution of many online groups. 'The differing opinions

as to what the game is about and should be played is interesting however, as it shows how vaguely stated objective goals may give rise to quite strong divisions based on subjective goals' (Smith, p. 170). If cooperation is collaborative effort towards shared goals, it can only exist if the common goals exist, a fact that is often taken for granted in emergent play spaces. However the range of goals actually found in online game play require a variety of approaches to cooperation, some self-serving and some quite altruistic. The key to successful cooperation is the identification and alignment of those goals, forming trust among group members which may involve the division of labour (Stevens, 2000 and Straus, 1985), and being able to play a meta cognitive (Bransford, Brown, & Cocking, 2000) game of recognizing misalignment and either readjusting or negotiating group goals or quickly finding groups to which one's play style and approach to cooperation is better suited.

Reciprocity also plays an important role in the alignment of goals. At times the immediate goal is simply the realization of an opportunity to increase one's social capital by helping another player or group in need. There is a sense that such contributions have a powerful effect on the game culture:

A community using strategies based upon reciprocity can actually police itself. By guaranteeing the punishment of any individual who tries to be less than cooperative, the deviant strategy is made unprofitable. Therefore the deviant will not thrive, and will not provide an attractive model for others to imitate. This self-policing feature gives you an extra incentive to teach it to others, even those with whom you will never interact...the other's reciprocity helps police the entire community by punishing those who try to be exploitive. And this decreases the number of uncooperative individuals you will have to deal with in the future (Axelrod, pp. 138-139).

Exhibiting a 'what goes around, comes around' mentality, players recognize that cooperative behaviour that doesn't result in an immediate pay-off is an investment in one's own future via a contribution to the overall system of cooperation within a given game environment. By helping other players in need, one can derive a sense

of comfort that they too will be helped at some point when assistance is needed, perhaps by that same player, or by another player who has been similarly assisted at another point in time:

When I was a newbie, people helped me. It's only right to follow that path.

Scottish-American male, *City of Heroes/City of Villains* player, Information Technology, Age 25-39, Georgia, USA

Tight social networks become fertile ground for such investments and increase the possibility of pay-off. Socio-cultural literacy becomes integral here, as it takes time and agility to navigate various social networks. This is made all the more complex by the fact that these social networks have both telescoping and lateral dimensions. Telescoping networks (Chen 2008) move from nearby groups to macro-level groups—including circles of friends, guild/super group relationships, guild alliances, faction and server affiliations. Lateral networks are explored as one moves from guild to guild, party to party, etc. to find the ones that fit the best. As one player notes, cooperation is a bit of a roller coaster:

Other players keep me company, and let me experience the ups and downs of cooperating towards a mutual good.

- Male *City of Villains/World of Warcraft* player, Student, Age 19-24, Södertälje, Sweden

In *City of Heroes* and *City of Villains*, the motivation to cooperate is somewhat different, as collecting loot is secondary to collecting experience points and influence (money) that allow one to improve one's character. On occasions when loot (enhancements) is the goal, game mechanics are such that all players receive items of comparable value when a mission is complete. Cooperation, in this case, is almost entirely a self-serving *endeavour*. Interdependence is designed into the game such that players benefit from cooperative play. There are even situations designed by the developers that allowed cooperative hero/villain play, a construct that is missing from other heavily faction-oriented MMOGs like *World of Warcraft* (in which opposing players cannot even speak to one another). However, players often

choose to engage in altruistic play on occasions when there is no immediate benefit to them. In a 2006 survey of several thousand *City of Heroes/City of Villains* players, 23% of respondents (2269 out of 9945 who responded to the question) indicated that they frequently sought new players out in order to help them. In addition, approximately one-third of the respondents (3307 out of 9945) reported that cooperative practices within the game had contributed positively to improvements in their ability and willingness to cooperate in real life. Players have suggested that the superhero lore of the game compels them to contribute to building a cooperative system as an exercise in high-level role-play; evidence suggests that the culture of cooperation within *City of Villains*, for instance, is less evolved, though game mechanics are quite similar. Again, these two game environments represent cases in which players have acknowledged the situated nature of cooperation and as a result, demonstrate varying levels of trust in whether they can expect cooperation or defection.

MMOGs represent opportunities to create a plethora of unique ‘magic circles’ (Huizinga, 1950), that allow players to participate in play across a range of motivations and styles. Cooperation is often integral to these activities, but the specific nature of cooperation is strongly situated in the cultures and norms of the groups, both ephemeral pick-up groups and longer term guild affiliations, and is reflected in whether players cooperate by focusing on short-term gain, or are willing to cooperate to create a system in which participants can trust that there will be a long-term pay-off for altruistic behaviour. The way the game is to be played is an ever-evolving process of negotiation, often led by the strongest or most passionate voices within a group. Finding a niche that complements a player’s individual style is the key to success within a game, and endeavouring to do so is an activity characterized by trial and error. Most conflicts within groups in MMOGs are related to this incongruence of motivations and play styles, and differing definitions of what it means to cooperate. Many players attempt to resolve these in-game conflicts through reflective talk—some of it successful, some of it less so. In these situations, some players may feel marginalized or ostracized when their perspectives are not in sync with those of the group. As such, the realities of gaming are a harsh contrast to

their expectations of 'play.' Other players leave groups when differences arise, deciding that the work involved with negotiating and managing the social bonds required to cooperate outweighs the benefits of staying. Sometimes players stay long beyond the point that they find the game itself interesting:

I find *City of Heroes/City of Villains* to be inferior to some other MMOs, in various categories, like content, and superior in others, but I continue playing simply because of the community.

- Caucasian male, *City of Heroes/City of Villains/Everquest/Guild Wars/World of Warcraft* player, Unemployed, Age 19-24, Kansas City, U.S.A.

In MMOGs, the real game is seldom the one set forth by developers, but is more akin to a game of life in which socio-cultural literacy takes precedence over more basic game play skills. It is in this regard that such games offer rich possibilities for practicing cooperation skills, as well as internalizing the benefits of participating in a rich ecosystem:

The practice of a community is maintained and enhanced by its members' ability to participate, belong to, and negotiate meaning. It is possible to conclude that competence is configured socially, not only by the industry but also within social practices at all levels of gaming culture. Participation has emerged as quite clearly negotiable, shaped by differing forms of ownership and the ownership of meaning. Collaborative play clearly increases the opportunities of individuals to contribute to the practice of this community as use was made of each respective repertoire of the group members (Schott & Kambouri, 2003, p. 13)

## 5.5 Conclusions

Essayist's Clay Shirky's 2008 novel *Here Comes Everybody* addresses many of these themes from a macro and micro perspective, though he doesn't consider MMO games specifically, he does evaluate a variety of new media and considers it within its larger social and historical context. As he says:

Just as everyone eventually came to treat the calculator as a ubiquitous and invisible tool, we are all coming to take our social tools for granted as well. Our social tools are dramatically improving our ability to share, cooperate and act together. As everyone from working biologists to angry air passengers adopts these tools, it is leading to an epochal change (p. 304).

In terms of the changes in the spaces I have observed, cooperation and participation have absolutely emerged as the norm, and some percentage of participants clearly regard the spaces as highly transformative, whilst others cling on to the notion that the MMOs they spend 20-60 hours deeply immersed in are 'just a game'. Despite these varying perspectives, it is clear to me that Castronova's fun revolution (2007) is indeed other way, and already having hugely transformative effects on participants. As far as I can tell, this is likely to continue as individuals raised on digital games and associated norms continue to participate in ever-evolving ways. The key soon, I believe, will be more sophisticated efforts from developers, publishers, educators and the like; leveraging the body of research that is currently being amassed and triangulating it with work being done in non-game spaces, as well. In the next chapters we will explore the various by-products of play in digital spaces, and how these proclivities to participate might be leveraged into more formal educational contexts.



## **Chapter 6:**

### **Collateral Learning: By-products of Play in Virtual Worlds**

Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.

-Oscar Wilde

#### **6.1 Introduction**

As we have explored in the earlier chapters, though the possibility of digital games for learning has been discussed somewhat widely in the last few years, particularly as it relates to so-called “serious games” or other explicitly educational endeavours, there has been less attention paid to entertainment titles as transformative learning devices and the sorts of learning that occur spontaneously through engagement with them. For while many a research study and anecdotal observation notes that people learn in order to play, we tend to focus quite negatively on the tricky questions of whether what is learned is educationally or otherwise valid, measurable in an accepted way, or directly transferable to other contexts. One specific issue is that we have carved out the specific phenomenon of single player gaming; allowing stereotypes about socially-isolated players to perpetuate, even though this image is, in fact, a red herring in light of more recent play patterns. Games have always been primarily social, as evidenced by millennia of documented game play between humans. Many a game acted as glue between people, from Go in the East to Chess in the West. As Gee (2005) says, ‘games are soothing to our souls’ (p. 119), yet they have achieved little elevation in their status in recent years despite impressive results in terms of revenue to the various companies that make them.

There was a period of time when emerging computer technologies did not adequately support multi-player gaming, also the time when computer games found their place in mainstream consciousness with that image more or less permanently etched into the minds of non-gamers. Players have, however, found all sorts of ways to play single player games collaboratively, and as our computer networks continue to evolve, players are now increasingly drawn to multiplayer gaming environments where cooperation with other players becomes the key defining characteristic of the play experience (Galarneau and Chen 2008) . Indeed, these environments have become powerful practice arenas for a range of important 21st century skills like team-work, communication, collaborative problem-solving, and information literacy in a network context (Galarneau and Zibit 2007).

...This potency of experience lies in the increasing ease and immediacy with which we can transfer multiple dimensions of our lived experience to contemporary virtual environments, particularly digital games and virtual worlds. As the complexity and sophistication of these digital media increase, the metaphor of everyday life becomes more easily adaptable to experiences within them. By everyday life I am here referring to the composite nature of contemporary being in its social and media-saturated cultural dimensions. The appeal of otherness that these environments promise in fact becomes organized by the same structuring principles of the everyday social world. Herein lies the power of the composite phenomenon that presence and immersion allude to: a process of internalization and experiential structuring that is compelling precisely because it draws on our fundamental social learning (Calleja, 2007, p. 98).

In his 2005 book *Everything Bad is Good For You*, author Steven Johnson popularised the idea of 'collateral' learning, that peripheral learning activities are often the result of other endeavours, often ones that are not explicitly learning focused (Johnson 2005). In addition, it has been noted that as a form of guided activity, collaborative play also appeared to be more effective than an expert's explicit attempts to instruct' (Schott & Kambouri, 2003, p. 13). Within the context of skills necessary for success in the 21<sup>st</sup> century, it seems clear that many of these skills are being

developed outside of formal learning environments. In fact, the types of skills necessary require approaches that are unequivocally badly suited to traditional learning environments like classrooms focused on individual activity, where collaboration is often considered 'cheating'. Harvard's Christopher Dede (who has done quite a lot of work with virtual worlds himself) has outlined three specific skills as critical to long-term success in modern work environments, the ability to collaborate with diverse teams of people, manage and share information, and achieve a level of comfort with chaos (Dede 1992). In the following sections, I shall outline how participants in my study develop these skills through play.

## **6.2 Collaborating with Diverse Teams of People**

In our increasingly flat world, the ability to collaborate with a range of individuals via technology-mediated means has become increasingly important. As Don Tapscott says in *Wikinomics* (Tapscott and Williams 2006), 'the new promise of collaboration is that with peer production is that we will harness human skill, ingenuity, and intelligence more efficiently and effectively than anything we have witnessed previously' (p.18) There is no place on Earth that demonstrates the ability for disparate groups of people to collaborate effectively quite like the Internet:

Using the Internet to communicate provides a number of benefits for the user. The most obvious are those shared by many other forms of communication technology: for instance, being able to communicate across time and/or distance. Mediated communication may also allow people the time to compose messages and replies, enhancing self-presentation and reducing the cognitive load of real-time impression management (Joinson, 2002, p. 126)

It has been noted that online games are a means for individuals to get to know each other from the 'inside-out', meaning individuals have an opportunity to get to know each other without the added baggage of first impressions. In this sense, these sorts

of communication are, in fact, democratising forces that allow groups of people who might otherwise have difficulty communicate with one another:

Game play and in-game communication have emphasized that stereotypes and prejudice are not only wrong, but foolish. The person on the other end of the game could be any gender, race, religion, age, or may be disabled or not. In the game environment, you meet and communicate who you are, rather than being judged on appearances.

- Caucasian Female, *City of Heroes/City of Villains/Everquest/Guild Wars* player, Technical Writer, Age 25-39, Maryland, USA

One of the things that is not widely acknowledged is that online gamers represent a remarkably vast range of people from all around the world, across ages and genders and from a broad spectrum of occupations (Figure 17).

<a href="#">61</a>	Account Manager
<a href="#">62</a>	Propert Manager
<a href="#">64</a>	Technical Trainer
<a href="#">65</a>	goverment contractor
<a href="#">66</a>	Systems Analyst
<a href="#">67</a>	Homemaker
<a href="#">68</a>	Computer Programmer
<a href="#">69</a>	Student, Salesman
<a href="#">71</a>	Claims Adjuster
<a href="#">72</a>	Engineer
<a href="#">73</a>	911 trainer
<a href="#">74</a>	MAIL MAN
<a href="#">75</a>	part time student/ part time lab tech
<a href="#">76</a>	Computer Tech
<a href="#">77</a>	bank employee
<a href="#">78</a>	Unemployed
<a href="#">79</a>	Internal Auditor
<a href="#">80</a>	Currently Unemployed
<a href="#">81</a>	Physician
<a href="#">82</a>	teacher
<a href="#">83</a>	Pest Tech
<a href="#">84</a>	Electric system contolroom operator
<a href="#">85</a>	Window Clerk
<a href="#">86</a>	Windows Systems Administrator
<a href="#">87</a>	Creative Director/MIS Manager
<a href="#">88</a>	Student
<a href="#">89</a>	sales rep
<a href="#">90</a>	Casino Gaming Supervisor
<a href="#">91</a>	Student
<a href="#">92</a>	Computer Tech
<a href="#">93</a>	Payroll Specialist
<a href="#">94</a>	On sabbatical

**Figure 17. From the survey, a short list of the diversity of occupations present in *City of Heroes/City of Villains*.**

**I was amazed by the broad range encompassing every imaginable occupation from CEOs to performers in the adult industry.**

When groups form in MMOG environments, they are initially quite often chaotic and disorganized. To look at variety of individuals playing, from myriad countries and spanning genders and age groups, this wouldn't be surprising. But what actually happens is that over a period of time, a spontaneous order emerges as players learn to sync their behaviours to the behaviours of other players. This is akin to the activity undertaken by musicians in a band finding their collective rhythm, or fireflies lighting up synchronously after a short period of each adjusting to their neighbours' patterns (Strogatz 2004). Just as 'learning is done incidentally through problem-

solving' (Kelly 2004, p. 185), in these environments, increased social capability is a by-product of practice. While most players will not think to mention that such collaborative activity is an integral part of their play experience when asked what their motivations to play are, collaboration emerges very strongly, in fact much more strongly than competition, which may seem the more obvious motivator. In the survey, 47% of participants in fact state that competition is not an important motivator, yet over 70% said that collaboration is either somewhat or extremely important. Among older players, this propensity is even stronger, of players over the age of 40, 82% say that helping others is one of their top motivators and 57% say distinctly that competition is not important.

As people playing MMOGs span age groups, gender and cultures, diversity is also a fundamental aspect of play. According to the survey, 65% of players (n=6458) spend at least some of their time playing with in-game friends or acquaintances, players whom they are unlikely to know in real life. While certainly not always the case, it is extraordinary how well such a diverse group of people manage to play together, and how well they can self-manage conflicts when they do arise. Many types of intolerant behaviour are self-disciplined within the context of play groups, or players who do not 'play nice' are simply marginalized, sometimes an equally effective 'punishment.'

I am enriched by them. They come from all walks of life and from around the world in my super group. Most other players also provide a positive experience. With older/more mature players I've found more co-operation, interaction and help. The younger players/young teens tend to be annoying in game but not always.

- Caucasian Female *City of Heroes/City of Villains/Everquest* player, Teacher, Age 40-54, South Carolina, USA

What emerges from this study is a picture of younger players who are more interested in achievement, status and identity play, including transgressive behaviour like grieving. However younger players (ages 14-18) are more likely to

characterise other players, even those they do not know in their physical lives, as friends. College-age participants were the most likely to play with people they knew in their physical lives, and would frequently play in physical proximity to them. It is also this group that is most likely to play with romantic partners, though that is closely followed by those aged 25-39. In addition, younger players are more likely to approach people online that they do not know already, and more likely to recruit 'strangers' for grouping activities. This suggests that growing up online affords individuals with a sense of comfort about collaborating with people they only know online:

Because many online communicants share a social categorisation, they will also tend to perceive greater similarity between themselves and their conversational partner. As we tend to like those whom we see as similar, people communicating online will be predisposed towards liking their communication partners (Joinson, 2002, p. 129)

Older players are much more likely to play with family members, typically stick with the same groups, and are more interested in socializing and altruistic behaviour. Several of these players reported using virtual worlds as a relevant means for interacting with far-flung families, or slowly re-integrating themselves into society after a disability or death of a spouse.

What is interesting, however, is how people move along this trajectory as they play; while they may start playing in a less social manner, game experiences, especially experiences in groups, often encourage them to change this behaviour:

Dealing with people from different areas, across age generations. I remember how tough I had it when I first started, and help any time I can.

- Caucasian male, *Anarchy Online/City of Heroes/City of Villains/Star Wars: Galaxies* player, Construction Management, Age 25-39, Williams Lake, Canada

Among other 'soft skills', many players report that these experiences have had a considerable impact on encouraging them to be more tolerant of diversity:

Most likely having more patience and tolerance for different opinions around me. In *City of Heroes* and *City of Villains* it is impossible to avoid conflict upon occasion because not everyone plays the same or experiences the same degree of in game success. As a result petty jealousies arise. This applies to real life because I have learned to have more tolerance in conflict with another person's opinion. I have learned to listen more and talk less and not to be so quick to throw my opinion into the mix.

- Caucasian female, *City of Heroes/City of Villains/GUILD WARS/World of Warcraft* player, Freelance Makeup Artist/Home-maker, Age 25-39, Texas USA

Futhermore, at a tactical level, several players reported learning very specific skills that helped them navigate a diverse set of capabilities and roles:

Running a super group has given me much insight into how to organize individuals, especially in what NOT to do. Through *City of Heroes/City of Villains* I learned that teaming/grouping is what makes MMOs such great gaming experiences, the combinations of power sets and characters that can be built and group together. Every time you team with a new power set it's a new combination and a new way to use your own powers. There is such a variety in the games in terms of character customization that almost every group is a unique experience, never mind every character build.

- Canadian Male, *Anarchy Online/Asheron's Call/ City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Final Fantasy XI/Guild Wars/Ultima Online/World of Warcraft* player, Systems Analyst, Age 35-39, Calgary, Canada



While I am experienced at long-form text, I have been challenged by *City of Villains* to improve in the brevity of chat-style text. As tech support for a school, I frequently communicate with children over chat, and my experience with *City of Villains* chat has lent to that skill set.

- Multi-racial male, *City of Heroes/City of Villains/World of Warcraft* player, Tech Support Analyst, Age 25-39, Washington, USA

Many international players also report improving their second language skills and awareness of the nuances of cultural diversity. This kind of practice is critical to second language acquisition, particularly as it involves practice in colloquial and technical speech, areas that are typically difficult to master (Chaudron, 1988). I had a similar experience playing on the German and French servers of *City of Heroes*; the exposure to colloquial language in real time was quite a challenge:

I found my English language skills have improved a lot; especially talking to other people (Portuguese is my primary language). It's a good way to be exposed to another country's culture.

- Male *City of Heroes/City of Villains/Eve Online* player, Software Developer, Age 25-39, Belo Horizonte, Brazil

As I'm an Arabic man and English is not my main language, I learned so many words to improve my English.

– Arab Male, *City of Heroes/City of Villains/Dark Age of Camelot* player, System Administrator, age 25-39, Kuwait City, Kuwait

I trained my English. Without games I would never could talk without problems to someone outside of my country.

- Male *Anarchy Online/Asheron's Call/City of Heroes/City of Villains/Dark Age of Camelot/Eve Online/Star Wars: Galaxies/The Matrix Online/World of Warcraft* player, Student, Age 14-18, Warchock, Poland

While typically limited to typed communication, some players use voice chat and improve their verbal, as well as written skills:

I use Team Speak [a program that enables voice chatting in virtual worlds] and I chat quite a bit - this I all do in English. That is \*damn\* good practise for me, living in the Netherlands (and often writing English articles).

– Male, *Anarchy Online/Asheron's Call/Dark Age of Camelot/Eve Online/Everquest/Saga of Ryzom/Star Wars: Galaxies/Ultima Online/World of Warcraft* player, Writer, Age 40-54, Nijmegen, The Netherlands.

It is quite common for players to point to the ability to play with people from all over the globe as a big part of what makes the MMO experience compelling, and results in players who later exhibit greater cultural sensitivity. One participant in the study related an incident in *Final Fantasy XI* involving altercations between Western and Japanese players. The issue was a cultural one: many Japanese players are uncomfortable when non-Japanese players 'search' their avatars to see what items they possess. It is a fundamental violation of privacy. Over a period of several weeks and accompanied by considerable angst, the players resolved the issue by developing a new system of etiquette that discouraged such practices. This basic play modification resulted in greater cultural literacy for this particular player. Many players in the study articulated how important a part of the gaming experience these international collaborations are:

I like the whole experience of playing with people around the world, and participating in a mutual interest. I love the gaming experience, and playing with other people in real time, just makes it an even grander experience.

– Caucasian Male, *City of Heroes/City of Villains/World of Warcraft* player, student, age 19-24, Oregon, USA



**Figure 18. *Star Wars Galaxies'* system of physical emotes helped players transcend linguistic barriers.**

**When a player typed the command ROFL (rolling on the floor laughing), their avatar would literally fall to the floor and roll in simulated laughter.**

As recounted above, one of my participants recounted specific anecdotes from his experiences playing *Final Fantasy XI*, an MMO popular with Japanese players. He mentioned that while there had been some early conflicts around established cultural norms in the broader Japanese and Western cultures, that over time these issues resolved themselves through awareness and negotiation. I have had personal experiences (see Figure 19) with players who spoke limited English, but had spent enough time observing in-game patterns and cues that they were able to play alongside English-speaking players quite effectively.



**Figure 19. A 16-year old Japanese school-girl controls the avatar Slumbrouscat from her computer in Tokyo. She is unable to speak English, but having become fluent with the norms of play is still able to contribute to cooperative activities in the American version of *City of Heroes*.**

Rather than this being an issue, the community typically views this type of behaviour as a novelty:





**Figure 20.** In this screenshot, the group acknowledges that one of the players does not speak English.

In fact, many players who are otherwise limited geographically welcome the opportunity to interact with diverse sets of people.

Different heroes represent different people behind a computer incarnating a character from their own imagination.. It is gratifying and interesting at the same time, being able to share with guys around the world.

– Chilean Male, *Anarchy Online/City of Heroes/City of Villains/Guild Wars/World of Warcraft* player, Student, age 19-24, Santiago, Chile.

Players also recognize that it is their responsibility to demonstrate their unique value, and not intruding on another's value by trying to take on too many roles:

The most important skill is working as a team, and staying within your archetype when in combat, i.e. if you're a blaster, not aggro'ing [becoming aggressive] before the tank [the designated offensive player] goes in, or if you're a defender

[a class of characters with largely defensive and protective skills], ignoring all the attack powers in favour of the buff/heals to further benefit your team, and make you more desirable.

– Male *Anarchy Online/City of Heroes/City of Villains/Dark Age of Camelot/Eve Online/Everquest/Guild Wars* player, Student, Age 14-18, Wellington, New Zealand

Game communities also exhibit characteristics and properties heretofore theoretically and practically underemphasized, such as interaction among community members with a wide range of skill, age, and maturity; reciprocal forms of teaching and learning that occur in all directions throughout the social network (Steinkuehler, 2005b, p. 7).

I have also noticed that the younger the players are in real life, the less team oriented they are...more likely to act independent of the team...older players are more likely to discuss strategy....and for some reason players who have kids are the most patient players

- Caucasian Male, *City of Heroes/City of Villains* Player, Dispatcher at a trucking company, age 40-54, Manitoba, Canada

Outside of extended families and schools, there are increasingly fewer places in our modern world that encourage the interactions of young and old people, and particularly few that offer an opportunity for different groups to break out of the rather rigid roles that are typically imposed upon them in their physical lives (Jenkins 2003). It is clear from these findings that players are using the spaces as venues for interaction and participation, and in the process are learning a range of peripheral skills, not the least of which is dealing with a rich community of extremely diverse individuals:

While most people are friendly, there are bad apples everywhere, and they are not all villains. These are the whiny players who don't understand the concept of team play. They are also the ones who don't listen to the team leader and always insist they do "their" missions. Now it may be a gross generalization to say they are teenagers, but in my experience that's who they are. If you get one on your team, they can drag the whole experience right down (Gary Mitchel, 2008).

### 6.3 Create, share, and master knowledge

In order for players to be successful in these complex environments, they must share knowledge, access available resources, and navigate their social milieu successfully in order to get the answers they need when they need them. Fortunately a vast world of information emerges spontaneously as soon as the public becomes even

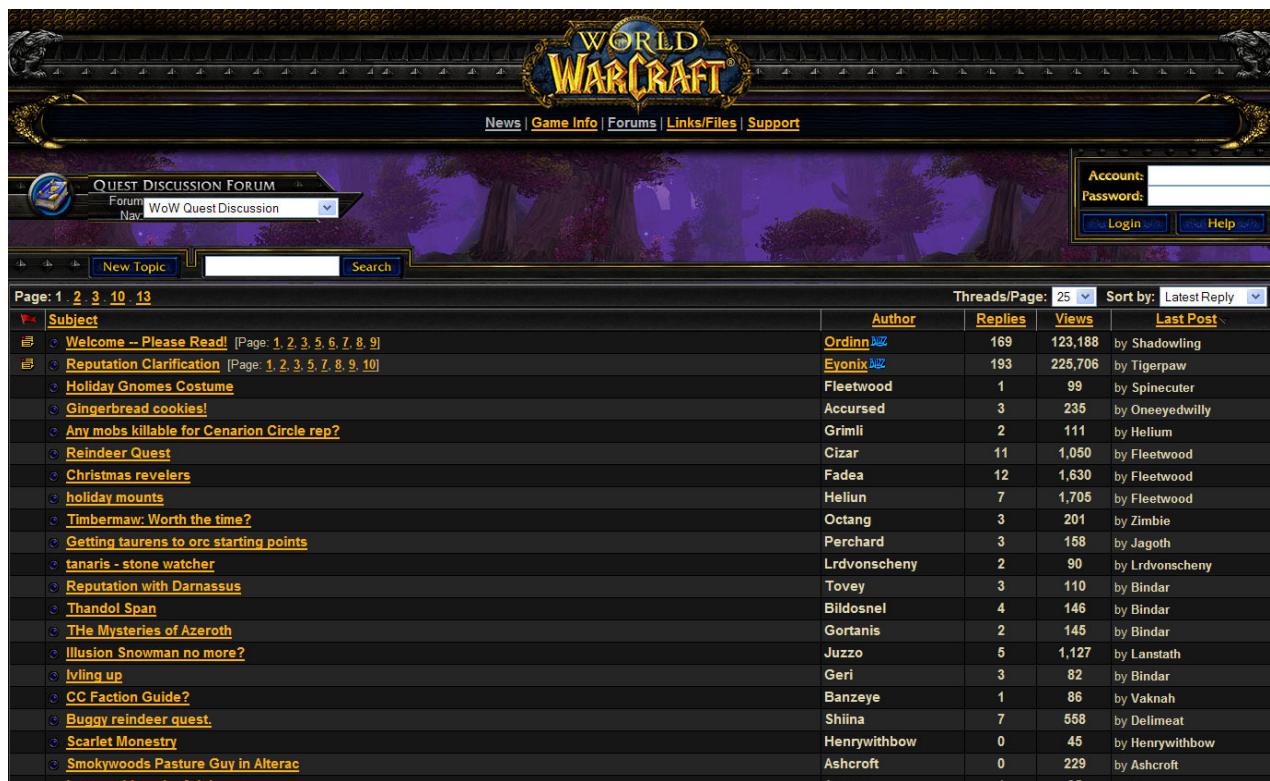


Figure 21. A screenshot from the World of Warcraft community site

vaguely aware of an intriguing game in the works. As Mia Consalvo notes:

Before a videogame is ever released, communication and artifacts relating to it spring up like mushrooms, much of it (the non-commercial side at least) with little planning or overall design from the game's developers. Fans of a game series post updates to a blog, mailing list, or chat site. ... Before a player loads a game on to a console or computer, the opportunities to learn about that game have become vast. And once a game is released, that steady stream of information becomes a flood. Reviews (both commercial and non-commercial), ads, cheat code releases, G4 TV specials, walkthroughs, discussion board topics on GameFAQs.com, and perhaps the opportunity to pay more real money to upgrade your game experience all appear.

(Consalvo, 2007, p. 8)

Players often become expert nodes, available to be questioned about in-game particulars or strategies. Often these players opt to set up permanent resources in the form of websites, lists, FAQs (frequently-asked-questions) and other reference materials. They are not compensated for these activities other than in the form of increased social capital and the fulfillment of their desire to contribute to the game environment in some way. In fact, it is not uncommon for these contributors to see their contributions ripple through the player population as some previously unknown bit of knowledge makes its way into the larger player consciousness and into game play practice. As Lave and Wenger suggested, 'the effectiveness of the circulation of information among peers suggests that engagement in practice, rather than being its object, may well be a condition for the effectiveness of learning' (Lave and Wenger, 1991, p. 93).





**Figure 22.** In this screenshot from *City of Heroes*, one of my characters, Gaia X, is responding to a question from a new player about how to configure her abilities.

Of key importance is the idea that individuals learn within this environment, but so too do their contributions and learning impact the learning of the groups and in-game communities to which they belong. The players take it upon themselves to devise and share strategies that help them master the game. Sometimes these strategies include the discovery of game ‘loopholes,’ exploited by players contrary to the intent of the game designers. As such, there is no documentation about these opportunities, yet players pass the knowledge from one player to another, until a ‘tipping point’ is reached and a majority of players begin engaging in the activity. Players report that this tendency of players to rely on one another for help makes it easier for them to ask for help themselves, both in game and in their physical lives as a whole:

I used to have trouble asking for help, but after being completely clueless and having to ask a question every second in *City of Villains* I am no longer uncomfortable asking for help.

- Caucasian male, *City of Heroes/City of Villains/EVE/Everquest/FFXI/STAR WARS: GALAXIES/Matrix/World of Warcraft* player, Student, Age 14-18, U.S.A.



**Figure 23.** Although I was an experienced MMO player, when I first started playing *World of Warcraft* I had to ask for help with basics like how to keep from drowning.

Information literacy is the flip side of the knowledge-sharing coin and perhaps the most difficult 21st century skill to master. If many people are sharing information, how does one distinguish what is valid and useful from what is erroneous or irrelevant, especially when information is available from such a wide variety of sources? Gamers learn to understand the importance of context in online environments. Who authored the information? Who are they affiliated with? What

agenda might they have? Do they really know what they are talking about? These are all key questions in any critical assessment of the possible validity of an information source.

This ability differs from country to country, as there are often quite different structures regarding 'official', sanctioned or unofficial sources of information. In South Korea, I had the opportunity to speak with the editor of a major fan site for the NCSoft game, *Lineage 2*. The NCSoft official website only contains very basic information about the game; the vast majority of information related to the game itself is on fan sites, a fact that left NCSoft struggling though they are often integrated into the official site. In addition they made efforts to allow players to access the fan sites from within the game itself. *Lineage 2* had 33 servers at the time of the interview, and the staff told me that each server had a unique culture reflected in the discussions on the individual fan sites. In addition, depending on the relationship between players and developers and whether it is friendly, distant, combative or some other permutation, the role of the intermediary, such as the fan site becomes all the more important.

A deep understanding of how to navigate information sources will become increasingly important in a world that accommodates massive amounts of information, much of which is resident and accessible through the network. Gordon Bell and Jim Gray are quoted in the *Social Life of Information* with the prediction:

'by 2047... all information about physical objects, including humans, buildings, process and organizations, will all be online. This is both desirable and inevitable.' (Seely-Brown and Duguid 2002, p. 1)

#### **6.4 Thrive on chaos**

To an outsider, MMOGs are profoundly chaotic environments, but as with chaos in biological systems, a structure and logic can be found if one looks closely enough. For instance, it is common practice within MMOG environments that players have to

self-organise into playgroups. This process involves self-marketing and negotiation, as well as knowledge of the subtleties of etiquette within these environments. Groupings may occur on a casual or longer-term basis. The more permanent groupings involve organization into often massive guilds or clans, often subject to all the intricacies of politics in any human social settings.

Grouping with a lot of players gives you a chance to meet different types of people and helps you understand how they think and improves team-work and organization.

- Greek-Cypriot Male *Anarchy Online/City of Heroes/City of Villains/Dark Age of Camelot/Eve Online/Everquest/Guild Wars/Star Wars: Galaxies/World of Warcraft* player, Student, Age 19-24, Cyprus

Furthermore, grouping requires players to develop skills in conflict mediation and bond formation:

Dealing with in-game personality conflicts has helped when dealing with the same problems in real life. The complexity and size of MMORPGs helps stimulate creativity and resourcefulness when dealing with problems.

Male *City of Heroes/City of Villains/DAOC/Everquest/STAR WARS: GALAXIES/Ultima Online/World of Warcraft* player, Computer Technician, age 40-54, Texas, USA

In a self-organised environment it is often imperative that someone manage the chaos by stepping, even temporarily, into a somewhat more directive role. This is especially common when things do not appear to be going well within the context of a battle, or when a conflict requires mediation. The particularly extraordinary thing about this phenomenon is that the leaders often come from unexpected corners. Even young players can step into this role, and as long as they are making a productive contribution and behaving maturely, their self-selection is rarely challenged. This aspect of meritocracy allows many players to explore facets of

themselves that may have gone unexplored in their real lives, sometimes leading to quite significant changes in their careers or perspectives.

As I will explore more fully in forthcoming chapters, players often feel that the skills they have developed in game have direct relevance to their lives outside the game. Not only are they able to develop the skills themselves, but they are also able to develop critical confidence in their abilities. When asked what, if any, effect the game might have had on his life, this older player responded that he had been given the opportunity to exercise leadership skills:

I'd say being given a leadership position (Captain, our second-highest rank) in a major super group. I take the position seriously (well, I never lose sight of the fact that it's only a game, but there are still real people on the other side of those characters, and I do take my responsibilities seriously), and I've learned a lot about how to help keep a large group of people together, how to help make things fun for everyone, etc. Even when I play characters who don't hold leadership positions in any group, I take my own position as a sort of community leader seriously. I try to help where I'm needed, try to mediate arguments at times, and try to give other people a good impression of whatever group I'm representing. My self-confidence has also improved a lot, as a result, in part, of my leadership role in the game. The fact that people respect me enough to accept me in that role means a lot to me.

- Mixed race male, *City of Heroes/City of Villains* player, Unemployed, Age 40-54, New York, USA

It is not uncommon for players to report making changes to their physical lives based on such experiences in game, some for the better, and some arguably for the worse:

It made me irresponsible and moody. I've been skipping school just to play this game.

- African-American male, *City of Heroes/City of Villains* player, Student, Age 14-18, New York, USA



I discuss problematic usage elsewhere in this thesis, but should note here that often the activities are quite repetitive, and the fun is in the peripheral discussions taking place in the chat window, as in Figure 24 (a large raid-like activity).



**Figure 24.** A screenshot from the MMORPG, *City of Villains*, shows hundreds of players cooperating to take down a large nemesis.

This ability to thrive on chaos is also apparent in the rapid decision making capabilities that players exhibit. MMORPG environments are dynamic and complex, often requiring players to share strategies and discuss moves, both well-in-advance and in the heat of battle. Players are continually analysing and interpreting variables, making rapid decisions based on just-in-time information. Gee (2003) characterizes players as being pushed to ‘operate at the outer edge of their regime of competence causing them to rethink their routinised mastery and move, within the game and within themselves to a new level.’ The complexity and chaos of the

environment also encourage players to be in a constant scanning mode, which as Schott and Kambouri point out, is critical to learning:

Traditional models of learning also recognise that new tasks cause the learner to engage more fully in monitoring and making sense of immediate events. Coupled with dexterity, aim, response time, and steadiness, comprehension of computer games also require the ability to decode a complex system of representational devices. In addition to mastery of procedures and moves, the presence of others within collaborative play permitted the group of players to discern what was happening in the wider context of the game. (Schott & Kambouri, 2003, p. 9)

So satisfying is the thrill of collaborative play that many players find that once they start sharing these experiences with other players, it is hard for them to go back to single-player experiences:

I haven't been enthused much by single player games since starting to play *City of Heroes/City of Villains* because it's fun sharing the sense of achievement with others. Also it's great seeing a group gel together as they get used to each others' moves and style. Sometimes I take over leadership and lecture a little on small-unit tactics such as line-of-sight. Then we kick ass and I feel all smarty-smart.

American Male, *City of Heroes/City of Villains* player, CEO, age 25-39, Beijing, China



Figure 25. The MMO *Star Wars: Galaxies* allowed players to experiment with a variety of roles, including some explicitly non-combat roles like tailoring.

More and more MMOGs are experimenting with a range of character classes and abilities, as well as deliberate interactions between classes, that encourage players to interact with one another. *Star Wars: Galaxies* was perhaps the most famous of these games, as it offered a range of combat and non-combat (artisans, entertainers, etc.) that added complexity to the game play (Thomas and Brown ; Men and Commodification 2005):

The many different archetypes in the game provide opportunities for variation in teamwork. The myriad of ways that players can team up and use their different powers to affect the outcome of a game gives them the opportunity to think hard about the different strategies used in-game. For example, a well balanced team of melee characters balanced with ranged and buffing characters can lead to a very successful and lucrative mission (exp points-wise). Also, teaming with players give you the



opportunity to practice your leadership skills on a limited level. Knowing when to retreat, attack, and when to send certain characters into the fray makes the experience feel like you are truly leading a group of individuals.

- Male *City of Heroes/City of Villains* player, High School English Teacher, Age 19-24, North Carolina, USA

## 6.5 Skill Transference

Certainly not everyone in the study was willing to acknowledge a link between skills developed or practiced in a game and the possible effect of those skills on real life development. In fact, a fairly large number of respondents insisted that virtual worlds have no impact at all on their real lives, and particularly not on their skills:

Your joking right? My real life skills help with team and leadership issues within the game. Not the other way round. I think you are stretching if you are trying to show a link between game play and real world skill development.

- Canadian Male *Anarchy Online/City of Heroes/City of Villains* player, Writer, age 40-54, Bangkok, Thailand

Some also made the point that, if anything, the game was simply a venue for them to practice skills they had developed in other ways. Collins and Seely Brown have referred to this phenomenon as ‘cognitive apprenticeship’(Collins, Brown et al. 1991); it is certainly fundamental to the game play experience in every virtual world I have encountered, and validates many individual players via opportunities to nurture other players and the groups to which they belong:

I chose this game because I wanted to bring my real life skills to the game. I’m a prior armed services member and this is a good way for me to stay connected utilize my skills learned in the service. i.e. e. leadership, teamwork,

organizational skills etc. I love interacting with different personalities all over the US and world.

- African-American male, *City of Heroes/City of Villains* player, Law Enforcement, Age 25-39, New Jersey, USA

This tended to be the attitude of older, more established players who felt that they were utilizing skills in-game that they had developed over a lifetime in their 'real' lives. There is also a contingent of younger players who are adamant that it is 'just a game'. These assertions more often than not have an air of bravado around them. Despite these assertions, several participants mentioned that virtual worlds were great vehicles for them to practice skills they had developed elsewhere in their lives. Female players, in particular, were likely to acknowledge improvements to their real life skills, most notably in areas like dealing with conflict, problem-solving, creative thinking, and teamwork.



Figure 26. Even in temporary groupings one player tends to take a leadership role.

In this case an experienced player, Grey Panther, is suggesting that the group approach the situation in a particular way.

Following are a number of open-ended comments from survey participants that outline their perspectives on the team-work and collaboration skills they have developed while playing online games. I include them here to demonstrate how prevalent these feelings of skill development are:

My teamwork skills are used constantly at work. Being a care coordinator I am constantly working with other nurses and have changed the way I deal with them and now look at each different ways they handle tasks and incorporate that into my own game plan

- Female *Anarchy Online/ City of Heroes/ City of Villains/ Dark Age of Camelot/ Everquest / Guild Wars/ Sims Online/ Star Wars: Galaxies/ World of*

*Warcraft* player, Care Coordinator (Medical Case Management) , Age 25-39,  
Arizona, USA

Taking leadership of a team in *City of Heroes/City of Villains* requires taking quite the initiative, and having to be forceful at pushing teammates along at times. I haven't often taken such initiative before in real life, so it's at least a start to making me more comfortable in leading groups.

- Caucasian male, *City of Heroes/City of Villains* player, Student, age 19-24,  
Michigan, USA

Leading teams and a super group have helped me to become more of a leader in real life. I tend to express my ideas more with a little less fear of what the other person might think. Other players contribute real world conflicts and ideas that you may not be in agreement on. You tend to learn from your experiences with them skills that you can apply in the real world.

- African-American male, *City of Heroes/City of Villains/Guild Wars* player,  
Computer Technician/Student, Age 19-24, Florida, USA

The aspect of game play that I think has the most effect on real life skills is *City of Villains* teamwork and the idea as well as the need to help each other. I have played quite a few MMOs and find *City of Villains* to be the most social of them all. It is based more on teaming and working together to approach a goal. *World of Warcraft* does this as well but you have to wait until you are 60 until you can do it. *City of Villains* side kicking system allows you to blur the levels a bit more than usual.

- Male *City of Heroes/City of Villains/Guild Wars/Saga of Ryzom/World of Warcraft* player, Student, Age 19-24, Arizona, USA

My poise, my language, my English language skills have improved, my logical thinking, my creativity, my writing skills, foreign language skills, self reflection, I feel more cultured and more intelligent also (and I have actually proof, through improved test standardized testing scores taken for educational purposes)

- Female *City of Heroes/City of Villains/Everquest/Guild Wars* player,  
Student/Pharmacy Technician, age 19-24, South Carolina, USA

In game communication has emphasized the value of precision and thoroughness in written communication, as well as how easy it is to misunderstand or be misunderstood.

- Caucasian Female *City of Heroes/City of Villains/Everquest/Guild Wars* player, Technical Writer, Age 25-39, Maryland, USA

Definitely anything having to deal with group teamwork and management. Even though my job has a great deal to do with that, *City of Villains* particularly helped.

- French female, *City of Heroes/City of Villains/Dark Age of Camelot/Star Wars: Galaxies/Matrix Online/World of Warcraft* player, Interpol Officer, age 19-24, Marseille, France

The communication with other players has improved my ability to communicate with people in real life and brings up many different topics of conversation for me.

- Caucasian female, *City of Villains* player, Local and Long Distance Coordinator, Age 19-24, Montana, USA

Team effort has more of a positive effect on my real life skills in my profession. I have reflected on my gaming occasionally and taken a moment to rethink a situation so that I could involve others in problem solving situations.

- Caucasian Female *City of Heroes/City of Villains/Everquest* player, Teacher, Age 40-54, South Carolina, USA

My teamwork skills are used constantly at work. Being a care coordinator I am constantly working with other nurses and have changed the way I deal with them

and now look at each different ways they handle tasks and incorporate that into my own game plan

*Female Anarchy Online/ City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Guild Wars/Sims Online/Star Wars: Galaxies/World of Warcraft* player, Care Coordinator (Medical Case Management) , Age 25-39, Arizona, USA

Leading my team into a tough battle with those higher level NPC [non-player character]. It really brings out the leader in me. I've learnt to socialise with other players easily. And I am able to lead them in team battles. There are players who totally assisted in each missions and some who are just playing stupid by getting the team all killed. Such players trained my leadership skills a lot more due to their different play styles.

*-Asian male City of Heroes/City of Villains /Guild Wars/Final Fantasy XI* player, Engineer, Age 25-39, Singapore

The most influential part of MMO games on my life has been the communication. Most people in MMO games have a good sense of humour because they go in expecting anything to happen. They usually shove off what other people say as a joke, even if someone really is insulting them. It's taught me to learn to move on...

*-Male City of Heroes/City of Villains/Everquest/Sims/Ultima Online/World of Warcraft* player, Student, Age 14-18, Ohio, USA

Before *City of Villains* I used to spend a lot of time in game forums helping other players & discussing the game. The benefit of anonymity many players tend to not observe social conventions or manners. I'm not as argumentative as I used to be; experience has shown me that not being able to change a person's mind doesn't mean I am wrong. Vice versa also, keep in mind much more that I'm not always right. Forum experience was great for getting a gauge on how people think in groups. Explaining how to help people in game teaches techniques that were useful with a call centre job. I also put problem solving skills/attitude down to 20+

years of gaming. It really teaches you to think laterally and look for/identify rules. Just as applicable at work as in game.

-New Zealand male, *Anarchy Online/ City of Heroes/City of Villains/ Dark Age of Camelot/Everquest/Star Wars: Galaxies* player, Analyst, Age 25-39, Auckland, New Zealand

I am typically an organizer anyway, but not often looked to as a leader. I think my speaking voice doesn't carry a lot of weight against other voices (it's very low and gets lost in a room), and that makes it hard to lead if I can't get in there to do so. In a typed format displayed in a chat window, I have the same weight to my sentences as anyone else so I don't get "talked over". The confidence gained from leading a successful super group and their positive reinforcement of my status has allowed me to change my body language and stand out more in situations where I can lead.

-Caucasian *City of Heroes/City of Villains/World of Warcraft* player, Graphic Designer, Age 25-39, Michigan, USA

Team play and leadership have improved, when I first started with *City of Villains* I didn't dare start a team. Now I've led the first successful Caleb raid on Infinity server. Oh and my English and typing skills has also improved a lot because of all the chatting.

--Male *City of Heroes/City of Villains/Guild Wars/Star Wars: Galaxies/Matrix Online/World of Warcraft* player, Student, age 19-24, Sweden

Being in a super group comprised of people from all over the world has taught me to be patient when dealing with others and compromise my position on things. I often hold high positions in super groups/guilds and need to be patient with its members. This has transferred over to real life where I've learnt to be more patient with others in a work environment & a social one.

-New Zealand male, *City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Guild Wars /World of Warcraft* player, Student, Age 25-39, Auckland, New Zealand

The world is stressful. I play games because they really don't take a lot of hard thought. Playing for an hour or two can help wipe the day away and I can start my evening with a clean slate. Not to mention the game is a fun way to pass the time.

- Caucasian Male, *City of Heroes/City of Villains/Guild Wars/World of Warcraft* player, Engineer, Age 19-24, North Dakota, U.S.A.

Perhaps this player addresses the issue of skill transference to the 'real' world most aptly:

I'm an old tech support technician. Dealing with customers daily became difficult as the intelligence level went down and into the normal population, causing burnout and frustration. I've learned so much in-game about dealing with people and being tolerant of idiots, mistakes, problems, conflict, resolutions. Being a leader means being a good example. I became a leader by unspoken unanimous decisions of others. They come to me for help. Heroes come to me for help and I never let them down, in combat, in personal lives, in-game conflicts with others... all of it. Did I pattern my real life after the game or did the game become a creation of my life? But truly, it doesn't matter which came first does it? The end result is good, and THAT's what really matters.

-Male *Anarchy Online/City of Heroes/City of Villains/Everquest/STAR WARS: GALAXIES* player, Information Technology Manager, Age 40-59, Colorado, USA

## 6.6 Practice for the Virtual Organization



Wikipedia defines a 'virtual organization' as one that exists 'as a corporate, not-for-profit, educational or otherwise productive entity that does not have a central geographical location and exists solely through telecommunication tools'. Since the 1990s, virtual organizations and teams have seemed like a panacea for a lot of problems that arise from collaboration in the physical world (real estate, travel costs, time wasted commuting, etc. ), but there hasn't been all that much useful data on what makes a virtual organization or team work well, despite the fact that there are many that are majestic examples of virtual organization (and more notably, self-organization) that flourish beyond anyone's wildest expectations. Likewise there have been horrible failures resulting from efforts to contrive a successful organization in a virtual setting, like some of the less-than-successful groupware experiments of the 1990s. While there are those who might debate whether MMO play constitutes productive activity or not, it does seem clear that the skills one develops via participation in MMOs might be hugely relevant to other types of virtual organizations:

The long time it takes to progress during the later levels has greatly improved my patience as of late, allowing me to stay calmer under stress as a side-effect. Separately, forming and organizing pick-up groups has given me a venue to practice my leadership skills, and to a lesser extent my organizational skills. I've had co-workers and friends notice the improvements in patience and organization repeatedly, and the few that have been around during a situation leadership was called for noticed my improvements in that area as well.

-Native American male, *City of Heroes/City of Villains/Eve Online/World of Warcraft* player, Telecom Engineer, Age 25-39, Oklahoma, USA

It came to my attention several years ago that some virtual organizations can be more efficient than ones where people meet face-to-face on a daily basis. People who work away from other people tend to spend less time filling the day with idle chit chat, and as people only tend to interact when there's work to be done, the social fabric tends to be less affected by the evils of gossip, back-stabbing, and other icky stuff that arises when people need something to pad out their 8-hour workdays.

Not to mention, of course, that being able to go to work in bunny slippers makes employees considerably more loyal than their commuting for hours a day counterparts. Some seem to think that virtual teams are more challenging than ones that meet face-to-face regularly, but perhaps this is merely a result of a lack of comfort with the technologies typically employed in virtual settings. A virtual team/organization can work just as well, if not better, providing that the participants have the requisite skills for the specific type of participation facilitated and challenged by virtual environments and distributed teams. So how do people learn those skills?

The communication between players, especially those who are working towards a common goal can certainly affect how a person can use those same skills to better yourself in real life. Learning to take command of a situation online can be a step towards better self confidence in real life as well.

Scottish-American male, *City of Heroes/City of Villains* player, Information Technology, Age 25-39, Georgia, USA

Stanford's Summer Institute at Wallenberg Hall is offered a course in the summer of 2007 with these goals in mind, Called 'Building Effective Virtual Teams: Tools, Techniques, Best Practices, and 'Gatchis' for Creating and Leading Distributed Teams'<sup>26</sup>, it guided managers through an 'intensive workshop' that focuses 'on distributed teams in multiple locations, especially off-shored or outsourced teams. New tools and methodologies as well as key research conclusions will be covered for what works and what has been awkward, difficult, or even disastrous'. The problem is that virtual worlds tend to be much more loosely organized than virtual organizations that centre around some sort of specific collaborative activity. Virtual worlds can certainly be rife with all the drama that we might see in a physical workplace, but what does the average virtual organization have in common with other virtual organizations? In fact, can MMOs be a training ground for learning to

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<sup>26</sup> [http://wallenberg.stanford.edu/summerinstitute/2007/summerinstitute2007\\_effectivevirtualteams07.pdf](http://wallenberg.stanford.edu/summerinstitute/2007/summerinstitute2007_effectivevirtualteams07.pdf)

function well in distributed workforces, telecommuting situations, 'loosely-coupled'<sup>27</sup> business ecosystems, the open source movement, and other such 21<sup>st</sup> century working scenarios? (Seely Brown, 2002, et al)

For those who have spent large portions of their careers participating in various online spaces and collaborating with others from afar, it can be easy to take these skills for granted. But what are the things that are critical to being part of a distributed team? Certainly leadership and management skills are important, but there are also skills related to being a good participant and contributor. Autonomy is also important: with no one looking over your shoulder (physically, at least), being able to work independently and being personally accountable are hugely important. Successful communication in virtual spaces demands literacy in a range of communication approaches. Fluency in the intricacies of online communication, like text-based email, is even more important when that is the only modality through which co-workers experience someone. Engendering trust amongst one's collaborators when one is out of sight and out of mind means developing a track record that demonstrates accountability and responsiveness. Sensitivity to the importance of developing social capital can help increase one's awareness of how they are perceived by others, a factor that can help them manage their personal brand. Finally, flexibility, or what Moshowitz (1994) calls 'combinatorial freedom', referring to an ability to take on different roles as different needs arise. From a management perspective, it means being comfortable hiring more generalized workers, and knowing how to identify and leverage a range of strengths.

Perhaps most importantly, and again relevant to the question of transference, is that players report changes in their physical lives as the result of these experiences online:

The fact that I am in charge of an super group in both *City of Heroes* and *City of Villains* has encouraged me to take a leap in my job: I've applied for a

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<sup>27</sup> [http://www.johnseelybrown.com/paper\\_orchestratingcollaboration.pdf](http://www.johnseelybrown.com/paper_orchestratingcollaboration.pdf)

management position. I doubt I'd have ever even made the attempt had I not been in a position of leadership within the game.

Male *City of Heroes*/*City of Villains*/*Everquest*/*Final Fantasy XI*/*Guild Wars*  
player, Student/Baker, age 25-39, Ohio USA

In the next chapter I will explore more fully the transformative nature of some players' experiences in these worlds.

## **Chapter 7:**

### **Virtual Worlds and Transformative Learning**

The opposite of play is not work, it's depression.

- Brian Sutton-Smith

#### **7.1 Introduction**

While there is a broad theoretical basis underscoring this work, one or two concepts are particularly deeply explored. One of them is the concept of transformational learning:

The extra-rational approach to transformative learning sees the learning as mediated by unconscious processes beyond the level of rational and conscious awareness. Insight, intuition, emotion, relationships, and personality may also play roles. (Cranton, 2009)

Both profound and banal experiences of players in virtual worlds have solicited a range of discussions regarding motivations for play, as well as concerned speculation about the so-called 'addictive' nature of these environments, an accusation made all the stronger by the idea that digital games are a waste of time. Yet even those who believe so often find that they cannot deny how compelling they can be:

Playing this game is an anomaly for me. Up until my roommate got this game and kept showing it to me, I was vocally against video games as a waste of time that could be better spent doing other, more creatively productive things. But I got interested, then had a lot of fun creating characters. Now that I've even played some of them up into higher levels, I've found that feeling of accomplishment that I guess most gamers get when they do the same thing. I'm rather pleased with the characters I created and have put some thought into somehow harnessing their creation for something creative outside the game, but so far haven't done anything other than plan a possible thing or two.

- Caucasian male, *City of Heroes/City of Villains* player, security guard, age 40-54, Colorado, U.S.A.

As massively multiplayer online games in particular, have increased in popularity, there has been considerable interest among academics and designers alike in creating structural taxonomies that categorise players of multi-user games according to various types, motivations or play styles. Why do people play? What motivates different categories of players? Does it differ significantly for various age groups and genders? While these are excellent and relevant questions, most of these efforts have been structured around the ways players present and behave in virtual worlds, i.e. what types of play they opt to engage in, and how this play is perceived publicly. This is entirely understandable. By exploring a wide range of player motivations beyond one's own experience, it is more likely that designers can engineer play environments that appeal to a broader population of players, creating relevant and meaningful experiences for a range of player requirements. This approach does not, however, address further layers of conscious and sub-conscious motivations within the drive to inhabit virtual worlds, particularly where virtual worlds are concerned. I propose that these layers extend both from motivations driven by social and emotional needs to more deep-rooted and less obvious layers surrounding issues of competency and belonging in the world.

The public and media scrutiny on videogames in general has largely been directed at violent content, but virtual worlds have been also been repeatedly attacked for their overly compelling nature. Occasionally there are very negative encounters, like the experience of Loyola professor Dave Myers, whose character 'Twixt' was threatened by a fellow player:

"If you kill me one more time I will come and kill you for real and I am not kidding."  
(Vargas, 2009)

MMOG environments are particularly susceptible to this criticism for these disturbing outliers and anomalies, as well as more prevalent issues, like their popularity among an intensely devoted and passionate player-base and a tendency

to describe these experiences as 'addictive'. Interestingly, the reports of addiction often stem from the inside, from players themselves and those closest to them. Spouses of players, or so-called '*Everquest* widows', referring to one of the more popular games of the genre, complain about their mates' compulsion to play. Players themselves report that they play more than they should and feel 'addicted'. However, not everyone agrees on what exactly is meant by addiction. Certainly it means something different to the clinically trained psychologist than its colloquial usage might imply.

Typing methods and player taxonomies, like those developed by Richard Bartle in 'Players Who Suit MUDS' (Bartle, 1996) and Nick Yee's responding player 'facets' based on his longitudinal surveys of 40,000 MMOG players (Yee, 2008), have attempted to answer some of the questions around player motivations. They have been largely focused on what players do or profess to do in virtual spaces, however, rather than examining what motivates them at a deeper level to adopt a certain approach to play, or indeed, why they play at all. In a sense, these player types represent a phenotype, to use biological terms, articulating the expression of certain needs and motivations that define the basis of play rationale. The biggest limitation of these approaches is that they do not address the deeper issue of why some find play in virtual worlds so compelling. This understanding is critical if we are to transition from speculation about possible motivation and effects to a deeper awareness of the deeper social, emotional and metaphysical complexities of game play allure.

For a huge number of players, these worlds probably serve as little more than stress relief:

I will normally play the game in the late nights / early mornings to unwind after work. The family is asleep and therefore I am not taking time away from the family. It is a great stress reliever after a long day. I tend to play the game to complete the mishes [missions] and to level and acquire new abilities. I do enjoy helping others within the game if they need / want it. I will play with one or more

players, as a team, or sometimes I enjoy soloing...just depends on what my goal is for the night.

Caucasian male, *City of Heroes/City of Villains* player, US Air Force Electronics Technician, age 25-39, Georgia, U.S.A.

This study has made it clear that is particularly significant for younger players, though they are prone to denying it when asked. In this study, achievement emerged as an important motivator for play, but only among the youngest players:

	219	6.64%
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Field Summary for 2:		
2. What is your gender? N=9960		
Answer	Count	Percentage
Female (F)	327	9.91%
Male (M)	2972	90.09%

Field Summary for 3:		
3. What is your age group? N=9960		
Answer	Count	Percentage
Under 13 (1)	85	2.58%
14-18 (2)	1165	35.31%
19-24 (3)	2049	62.11%

Field Summary for 15(4):		
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15. What are your main motivations for playing? [Achievement]		
Answer	Count	Percentage
No answer	216	6.55%
Extremely important (1)	1215	36.83%
Somewhat important (2)	1579	47.86%
Not important (3)	289	8.76%

Younger players do however show significant motivation to experience achievement, a factor that might explain why some players choose to spend so much time playing. Arguably there are simply not enough opportunities for achievement-oriented activities. As such, for a significant number of players, the games occupy an important role in their lives. Outside of his facets work, Yee has, in fact, explored the issue a bit more deeply:

A better way to think of it is that there are two sides to addiction - underlying frustrations or motivations that push you, and objects or activities with the matching profile that pull you in. In other words, there are aspects of MMORPGs that are inherently compelling and encourage players to invest a lot of time and get attached to their characters, but the degree of the attraction/addiction depends on how many external factors are pushing the player into this particular outlet (Yee, 2006).

The external factors are what Yee calls motivational factors, characterized by low self-esteem, poor self-image, lack of control, or other real life problems. As Yee's comments allude, players frequently report that unmet needs in their physical lives are a driving factor in their motivation to play. In his book on play and addiction in MMOGs, author R.V. Kelly 2 concurs, explaining game addiction as a strong

attraction to these possibilities in virtual worlds, noting that MMOG 'life provides the same kind of rewards that people seek out in the real world, but provides them in a way that involves less struggle and no threat of painful failure'. The specific ways in which this occurs often relate to the feeling that virtual worlds offer opportunities for personal satisfaction and transformation that are not easily accessed in the physical world, ameliorating for some the palpable sensation that it was 'real life that was broken' (Kelly, 2004).

In the MMO study I conducted, socializing vs. transformation is an interesting vehicle for looking at the age disparity and levels of self-awareness about what motivates one to participate in such spaces. Note:

AGE: Under 13, 14-18, and 19-24		
15. What are your main motivations for playing? [Self-Transformation]		
Answer	Count	Percentage
No answer	543	16.46%
Extremely important (1)	501	15.19%
Somewhat important (2)	792	24.01%
Not important (3)	1463	44.35%

AGE: Under 13, 14-18, and 19-24		
15. What are your main motivations for playing? [Socializing]		
Answer	Count	Percentage
No answer	212	6.43%
Extremely important (1)	1287	39.01%
Somewhat important (2)	1365	41.38%

Not important (3)	435	13.19%
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Compared to the following for the older players:

Field Summary for 15(18):		
15. What are your main motivations for playing? [Self-Transformation]		
Answer	Count	Percentage
No answer	1162	18.08%
Extremely important (1)	535	8.33%
Somewhat important (2)	1450	22.56%
Not important (3)	3279	51.03%

Field Summary for 15(1):		
15. What are your main motivations for playing? [Socializing]		
Answer	Count	Percentage
No answer	452	7.03%
Extremely important (1)	1646	25.61%
Somewhat important (2)	3198	49.77%
Not important (3)	1130	17.58%

My sense, supported by these data, is that past explanations about the appeal of digital game environments focus too strongly on the notion that some deficiency in a player's life contributing to their attraction. While I do not disagree that this is sometimes the case, I believe that many other players are drawn to virtual worlds as

an enhancement to an already fulfilling physical life, simply wishing to explore a somewhat more idealistic vision of how societies might manifest themselves, or as a way of feeling like one has accomplished something significant in a day, something that happens when you level a character several times in a night and feel the pleasure of tangible rewards and (often more importantly) the camaraderie and approval of one's companions. For example, among the many equalizing phenomena of virtual worlds, many players describe a complex meritocracy in which they are 'judged by their characters' actions', enjoy 'spontaneous kindness' leading to 'genuine friendships', and most importantly, feel like 'they are making progress on an emotional level. They're not just getting ahead in the virtual world, but actually maturing, growing, learning from their experiments with behaviour, and reformulating their views of themselves and their fellow human beings as a result of their experiences in the virtual world' (Kelly, 2004). These experiences represent opportunities for growth, expression and personal transformation that may not be available elsewhere. Yet this type of growth is exactly what a world focused on 'soft skills' and 'emotional intelligence' requires. Players are, in fact, preparing themselves for life in the real world; virtual worlds offer unique opportunities by allowing them to practice skills they never have cause to fully utilise in their physical lives.

I've tried to follow examples set by some others in being more patient or respectful of opinions I don't agree with.

Caucasian male, *City of Heroes/City of Villains* player, age 25-39, Sr. Financial Manager, New York, USA

This possibility was strongly borne out in both my interview and survey data. Players reported various improvements to skills they also use in their physical lives, including the following:

- Patience/helpful attitude
- Communication/social skills
- Team-work/cooperation

- Sense of humour
- Dealing with conflict
- Self-control
- Problem-solving/resourcefulness
- Leadership/organisation
- Decision-making
- Creative thinking

These transformations were often made possible via practice in the specific skills necessary, i.e. written language, but also in an alternate system of belief brought forth by experiences in the world. Many players reported developing a more productive system for dealing with issues in the world, as with these players who significantly changed their attitudes towards other players:

Self control - not responding to the loud obnoxious people that I previously would have, Solving problems with different styles/attitudes within a group dynamic.

-New Zealand male, *City of Heroes/City of Villains/ Everquest /Guild Wars/Star Wars: Galaxies/World of Warcraft* player, Unemployed, Age 25-39, Auckland, New Zealand

My patience is really the biggest change I've noticed, that and the ability to control my temper. I have a hard time with both - but you have to learn how to develop those skills to function in MMORPG worlds. I also find that I'm much better at working toward common goals and helping others who may not know as much as I do about one thing or another without being condescending in my real life as well.

Caucasian female, *City of Heroes/City of Villains/Everquest/FF/GUILD WARS/SO/STAR WARS: GALAXIES/THE MATRIX ONLINE/Ultima Online* player, Writer/Editor, age 25-39, South Carolina, USA

## **7.2 Community, Participation and Learning**

One of the things that is very strange about play in virtual worlds is that players frequently continue to play long beyond the point they find the game interesting because of the bonds that have been formed with other players:

I generally still play because of the friends I've made in the game. As of late, I tend to log on to simply chat with those people. These are the people with whom I've laughed so hard that I've nearly choked on a Dorito. These are the people who know my girlfriend's name, my cat's name, my brother's name: these are my friends, even though we've never met. If nothing else, the people with whom I spend my in-game time contribute to making my day brighter, just by speaking with them. What better experience is there?

*Male City of Heroes/City of Villains/Everquest/Final Fantasy XI/Guild Wars*  
player, Student/Baker, age 25-39, Ohio USA



**Figure 27 – In this image, players have congregated on a rooftop at a pre-determined time to take a ‘photograph’ of their Super group (the Empyreans) to be posted on the group’s website. The activity of coordinating everyone for the photograph took over an hour.**

The friendships that players develop are frequently cited as the most important aspect of the play experience.

Friendship is the most important contribution to my game experience. Without my in game friends a lot of "real-life" issues would not be resolved. I "came out" through the game and it allowed me to "come out" to my Face to Face friends.

– Caucasian Male, *City of Heroes/City of Villains/Dark Age of Camelot,/Star Wars: Galaxies/World of Warcraft* player, Student, age 19-24, Bristol, UK

In this study, the area of friendship and in-game relationship demonstrates a rather large gender divide, at least in the way players choose to describe their relationships with other players. Women are more likely to say that feeling needed and helping others are big reasons why they enjoy playing, and they are more likely to characterise their in-game relationships as loving, loyal, supportive and mentoring. Interestingly, women also report the greatest propensity to leverage their social networks (in-game or out-of-game) for assistance in the game. It is possible that the closeness of the relationships makes them more comfortable asking for help, or it could be that women naturally cultivate the closeness in order to ensure they have a network at hand when needed (Goleman, 2007). This is certainly in line with certain theories of social intelligence, and an interesting area for further exploration.

I am co-leader of my main SG, and I take it as my responsibility to help the members of my SG as much as possible, and to encourage positive, friendly playing. I have met several in-game friends who have become real-life friends over time. It has given me a wider pool of support for difficult times.

- Caucasian Female *City of Heroes/City of Villains/Everquest/Guild Wars* player, Technical Writer, Age 25-39, Maryland, USA

One of the things that distinguishes *City of Heroes and City of Villains* from other virtual worlds is a character customization system that becomes a sort of sub-game for many players, adding considerably to the replayability of the game. Many players have many different characters, or alts (shorthand for 'alternate'), that they play. Some players even refer to themselves as 'altaholics' as a way of describing their fascination with building many characters. If a player has one character that they play most of the time, they typically refer to that character as their 'main'. In some of the main gathering areas in the game, it is not uncommon to see several characters lined up to participate in a costume contest that has been initiated by another player (who is typically offering prizes, often currency):





**Figure 28.** The character customization system in *City of Heroes/City of Villains* provides a unique mechanism for sociability. Players often compliment each other on names, appearance and back story, as in this screenshot where the one of my avatars (Feisty Popsicle) has inspired a compliment.

*World of Warcraft* is my primary MMORPG, but *City of Villains* is the first one that grabbed me. In *City of Villains*, I tend to build characters based on an origin or costuming idea, just to see the character generation process, but then may not actually play them: MomLady (a healer with sonic attacks, looks like a soccer mom) Sheherazade (illusionist: Arabian Nights theme) Lady MacBeth (sword-wielding scrapper with medieval armor set, transported from a pseudo-historic period of Scottish history) etc.

- Female City of Heroes/City of Villains/Dark Age of Camelot/World of Warcraft player, Teacher, age 25-39, Virginia, U.S.A.



**Figure 29 – In this case the player has cleverly used the character customization system to create a humorous avatar, belonging to a super group called the Thunder Chickens.**

The hilarity that can ensue from the many different attitudes that are in the game are great. I have met many great people online and I enjoy playing with them on a regular basis. They are people that I can share my real-life gripes with without having to worry about them becoming involved. I consider them real friends even though I will never see them outside of the game. Knowing that there are people that truly care about you while you are playing makes the game that much more enjoyable.

- Male *City of Heroes/City of Villains* player, High School English Teacher, Age 19-24, North Carolina, USA





**Figure 30.** Even intense battles can end comically, as in this screenshot where several of the team members have died, and two of them (including myself – The Desperate Housewife) are stuck inside a cave wall.

One of the more interesting findings in this study was around players reports of the importance of humour. In fact it was one of the most oft-cited examples of skills development, as humour is frequently used to mediate situations that might otherwise be tense. It is the combination of these shared experiences that helps players internalise the satisfaction of close bonds with other players.

I enjoy soloing and teaming about equally. When teaming, what I enjoy most is the companionship. Even though I've never met any of the people I team with in person, I consider some of them to be actual friends, and pretty much all the people in the group I team with are great people, and great players- they also have great senses of humour, which adds to the fun. At this point, many of us know each other's play styles well enough to have some exceptional team work going on, too, which is always fun, and I always feel a strong sense of pride at

being a part of a community which includes such great people, and such great players.

- Mixed race male, *City of Heroes/City of Villains* player, Unemployed, Age 40-54, New York, USA

The following chat illustrates the closeness of the relationships that form. I had been playing *City of Villains* for some time then because I was travelling, I (and my partner at the time, who frequently played with me) had stopped playing. When I logged back in a while later, this was the greeting I received when one of my former Super group leaders noticed my character online:

2004-11-28 18:30:47 [Tell]Cerulean: whollay shitet!!!

2004-11-28 18:30:58 [Tell]Cerulean: lux!?!?!? it's really u???

2004-11-28 18:31:00 [Tell Lux: lol. yeah i didn't play for a while

2004-11-28 18:31:08 [Tell]Lux to Cerulean: yeah, really!

2004-11-28 18:31:10 [Tell]Cerulean: u still have the game?

2004-11-28 18:31:22 [Tell]Lux: yeah, played *Everquest 2* for a bit

2004-11-28 18:31:30 [Tell]Lux: but was mostly just busy

Cerulean then re-added me to the Super group:

2004-11-28 18:31:46 Lux Luminari is now a member of The Empyreans!

2004-11-28 18:31:47 The Empyreans Message of the Day: Hello Empyreans:

We are going to have a meeting with Phoenix Prime, our affiliate and allied Super Group soon. Radian Sting has some events in mind to host with Phoenix Prime.

Once I was back in the group, I was greeted on the Super group chat channel:

2004-11-28 18:31:50 [Super group]Cerulean: Hi Lux! ..

2004-11-28 18:31:59 [Tell]Lux: so I'm back in the super group, eh?!

2004-11-28 18:32:00 [Super group]Electra: welcome back Lux!!! :)

2004-11-28 18:32:10 [Super group]Lux Luminari: hello!

2004-11-28 18:32:16 [Tell]Cerulean: lolll ..forever ..you're always wanted here =D

2004-11-28 18:32:19 [Super group]Lux Luminari: good to see you all

2004-11-28 18:32:24 [Tell]Lux: ah thx

2004-11-28 18:32:37 [Super group]Electra: :)

2004-11-28 18:32:52 [Super group]Cerulean: *World of Warcraft*.... guys that don't know ..Lux Luminari is Grey Panther's wife ... the first Recruit of The Emphyreans

2004-11-28 18:32:59 [Super group]Lux Luminari: aren't u all like level 50 now????

2004-11-28 18:33:06 [Super group]Electra: w00t!

2004-11-28 18:33:11 [Super group]Electra: 47

2004-11-28 18:33:21 [Super group]Lux Luminari: I'm still 24

2004-11-28 18:33:27 [Super group]Lux Luminari: *World of Warcraft*!

2004-11-28 18:33:27 [Super group]Cerulean: <-50

2004-11-28 18:33:35 [Super group]Lux Luminari: that's great, congrats.

2004-11-28 18:33:37 [Super group]Electra: *World of Warcraft*...you were gone for a while

2004-11-28 18:33:42 [Super group]Lux Luminari: I can say I knew u when!!

2004-11-28 18:33:48 [Super group]Electra: haha

2004-11-28 18:33:50 [Super group]Cerulean: thanks ....knew u at level 10 Lux =)

2004-11-28 18:33:54 [Super group]Lux Luminari: yeah, got busy, played  
*Everquest2* a bit....

2004-11-28 18:33:58 [Super group]Lux Luminari: mostly busy

2004-11-28 18:33:59 [Super group]Electra: right on

2004-11-28 18:34:06 [Super group]Electra: how is the baby?

2004-11-28 18:34:09 [Super group]Lux Luminari: yeah, I was the first recruit!!

2004-11-28 18:34:15 [Super group]Cerulean: haha awesome Lux

2004-11-28 18:34:25 [Super group]Lux Luminari: she's good... sleeping... that's a  
lot of what keeps me busy!

2004-11-28 18:34:26 [Super group]Electra: w00t!

2004-11-28 18:34:38 [Super group]Electra: right on :)

2004-11-28 18:34:42 [Super group]Lux Luminari: lol 39.46

2004-11-28 18:34:44 [Super group]Cerulean: so GP quit though huh Lux?

2004-11-28 18:34:58 [Super group]Electra: tell GP I said hello...and that I'm back  
:)

2004-11-28 18:35:00 [Super group]Lux Luminari: yeah, he's been playing  
subspace

2004-11-28 18:35:13 [Super group]Lux Luminari: he says hi!

2004-11-28 18:35:27 [Super group]Lux Luminari: I think he didn't know what to  
do when he hit 50!

2004-11-28 18:35:28 [Super group]Electra: yay :D

2004-11-28 18:35:36 [Super group]Electra: lol, yeah :p

2004-11-28 18:35:41 [Super group]Cerulean: yeah tell him that Electra and OT are back  
2004-11-28 18:36:24 [Super group]Cerulean: I thought u guys cancelled ur account tho..

2004-11-28 18:36:36 [Super group]Lux Luminari: I should have prolly, but didn't

2004-11-28 18:36:48 [Super group]Lux Luminari: he hasn't shut his off yet...

2004-11-28 18:36:54 [Super group]Electra: nice :D

2004-11-28 18:36:57 [Super group]Lux Luminari: but said he was going to...

2004-11-28 18:37:02 [Super group]Cerulean: tell him not to....

The conversation continued privately between myself and Cerulean, the Super group leader, and he told me what had been going on with the group in my absence:

2004-11-28 18:43:26 [Tell]Lux: hey, you'll have to tell me about the sg [Supergroup]..

2004-11-28 18:43:35 [Tell]Lux: I heard there was more drama...

2004-11-28 18:43:47 [Tell]Cerulean: yeah ..well paradox had some probs with peeps [problems with people]

2004-11-28 18:43:54 [Tell]Cerulean: that was the only drama...

2004-11-28 18:44:15 [Tell]Lux: oh really? what was he like?

2004-11-28 18:44:37 [Tell]Cerulean: basically he made her and red ..feel uncomfortable..

2004-11-28 18:45:12 [Tell]Lux: was he being sexist or mean?

2004-11-28 18:45:24 [Tell]Cerulean: he is an abused spouse with abused kids..

2004-11-28 18:45:34 [Tell]Cerulean: and he comes on here to find intimacy and love..

2004-11-28 18:45:46 [Tell]Lux: really? that's sad

2004-11-28 18:45:57 [Tell]Lux: but he offended people in the process?

2004-11-28 18:46:00 [Tell]Cerulean: during this time ....electra along with red  
...felt really weirded out about it ...got into their safety zone

2004-11-28 18:46:13 [Tell]Cerulean: yeah ..unfortunately I had to let him go

2004-11-28 18:46:15 [Tell]Lux: oh, did he come on too strong?

2004-11-28 18:46:35 [Tell]Cerulean: it was his natural being ...innate in him  
...he thought it really wasn't wrong when the things he was doing were very  
wrong

2004-11-28 18:46:53 [Tell]Lux: ah gotcha...

2004-11-28 18:46:54 [Tell]Cerulean: one bad apple can spoil the tree ya know?

2004-11-28 18:47:08 [Tell]Lux: yep, good u knew when u needed to let him go

2004-11-28 18:47:11 [Tell]Cerulean: so I didn't know what to do ..I was  
caught in the crossfire of it

2004-11-28 18:47:17 [Tell]Lux: it's all about keeping the group in balance

2004-11-28 18:47:34 [Tell]Cerulean: so I thought it over ..and did what I had  
to do ...I created this super group for a place for people to call HOME

2004-11-28 18:47:46 [Tell]Lux: ah, that's sweet

2004-11-28 18:47:49 [Tell]Cerulean: and a place where they can be  
themselves and develop lasting relationships..

2004-11-28 18:47:58 [Tell]Cerulean: and they couldn't ..if he was around =(

2004-11-28 18:48:05 [Tell]Cerulean: thats how I weighted it

2004-11-28 18:48:24 [Tell]Lux: right, that's a sensible perspective...

2004-11-28 18:48:25 [Tell]Cerulean: everybody really misses you two ....sux  
without u guys ..and peeps wish that you were back



Some games set up explicit systems that encourage mentorship. In *Star Wars: Galaxies*, the character development system was built in such a way that in order to progress through the levels of any ability, one had to find a more senior level of that profession (see Figure 31). Many other virtual world environments encourage crafting of some variety or another, but some have actually built it into a uniquely interesting system for cooperation. *A Tale in the Desert* is a relatively small MMO that was built specifically to encourage cooperation; there is no combat as such:

The game players are required to accomplish the tests assigned by [virtual] schools and universities. Some of the tests can be done individually, however, most of the tests require (or encourage) cooperation with other players. The players also have to donate resources to the universities to release the higher-level skills. The resources required for releasing skills are large and difficult to gather alone. It is also necessary to cooperate with other players to release the skills (Fujimoto, 2005, p. 5).



**Figure 31.** In this screenshot from *Star Wars: Galaxies*, players who are developing entertainment skills congregate in the Cantina.

Similarly, in *City of Heroes* and *City of Villains*, players can play with others from different levels through a novel side-kicking system that has been much lauded by the game community at large:

With the built-in mentoring system, high level characters can take on a low level character as a Sidekick, or a Lackey as it's called in the villains' Isles, bringing them up to one level under their mentor. This lets various level groups of friends run together, and gives the Sidekicks a chance to take a peek at some high-end content (Mitchell, 2008).

During our interview in 2005, *City of Villains* lead designer Jack Emmert told me that he was surprised by the reaction to this innovation as it was very intuitive to him that players would want to play with friends regardless of whether they had achieved the same level or not; it truly is strange that so many MMOGs limit collaboration to players who are of a similar level. In fact it is true that in many

environments the social networks begin to fall apart when players play at different rates. One of the standards for whether someone is a good playmate or not is derived from whether play styles in terms of number of hours and times of play are in sync with one's own gaming proclivities. This is one of the major sources of conflicts amongst guild and team members in such games. Players find themselves constantly having to balance their own personal needs, and often the needs of their jobs or families, against the needs of the virtual organizations with which they have formed strong bonds. In interviews with the developers at Cryptic Studios (the developer of *City of Heroes* and *City of Villains*), Serdar Copur and Jack Emmert, as well as community managers at NCSoft (the publisher of *City of Heroes* and *City of Villains*), it emerged very strongly that keeping one step ahead of the players in such a dynamic environment was an extremely onerous task. When I interviewed them in 2005, they were in the midst of controversial efforts to re-balance the game, because after some period of play it had become clear that some of the character classes were simply too powerful, giving unfair advantage to some players over others.

I learned to step up when the situation calls for it and take control and delegate tasks, jobs and so on. In order to get the job done. I learned that a lot of people are just looking for guidance. They don't really mind much when they're told what to do.

- Hispanic male, *City of Heroes/City of Villains/Everquest/Sims/STAR WARS: GALAXIES* player, Flight Attendant, age 25-39, Florida, USA

I used to be a firm believer in solo game play. *Everquest* was playable till your 20's then required grouping, which I detested. *Anarchy Online* was also forced grouping to advance but it was more fun. *City of Heroes* and *City of Villains* now is a pleasure to group and team, heck I prefer it now. the experience of teaming with people has become wonderful, but not necessary. I like talking to people and interacting and I end up being people's "shrink". My in-game friends have become real life friends that are closer than many friends I grew up with.

- Male *Anarchy Online/City of Heroes/City of Villains/Everquest/STAR WARS: GALAXIES* player, Information Technology Manager, Age 40-59, Colorado, USA

The result of all this is that players become quite dependent on one another. Players are generally understanding when real life intrudes, but it can cause issues in the heat of battle. On this occasion I had to leave the game in the middle of a difficult battle in order to attend to my daughter, who has woken up crying. I tried to take care of her while simultaneously attending to my struggling virtual team-mates:

[Team]Lux Luminari: afk [away from keyboard] one sec. baby crying

[Team]U.S Soldier: incoming [enemies approaching]

[Team]Lux Luminari: sorry back. with baby on lap

[Team]Lux Luminari: sorc [enemy] back there

[Tell]Gamma Droid: most of these guys dont know what they r doing either lol [laugh out loud]

[Tell]-->Gamma Droid: poor baby was crying and crying

[Tell]Gamma Droid: is he/she ok? just hungry?

[Tell]-->Gamma Droid: but I was afraid 2 afk [afraid to leave the game]

[Tell]-->Gamma Droid: sick. wants cuddles

[Tell]-->Gamma Droid: on couch next 2 me now

[Team]Bzzzztt: um, ow [hit by enemies]

[Team]U.S Soldier: NOOOO [dying]

[Tell]Gamma Droid: what about dadddy/mummy?

[Team]Bzzzztt: no worries, I have an awaken when its safe [died, but can resurrect]

[Team]Lux Luminari: sry bout that! [my fault for not being able to heal quickly]

[Team]Bzzzztt: lol, dropped me in like 2 hits, not your fault.

[Team]Gamma Droid: will grab dinner after this mission

[Tell]-->Gamma Droid: playing too. lol

[Team]Bzzzztt: Life, and MMOs, are like diapers: sooner or later, poop happens!

On the other hand, some players feel pressured to give in to the needs of their in-game friends and grouping partners, a fact that can lead to significant internal conflict:

I usually get kicked out of super groups because I don't play enough hours for the rest of the people in my group.

- American Male, *City of Villains* player, Military, age 19-24, Okinawa, Japan

It is precisely this level of connectedness to virtual worlds that leave some nay-sayers shaking their heads. However, there are more nuanced aspects to this phenomenon than are apparent at first glance.

### **7.3 Virtual Worlds as Sanctuary**

Play theorist Brian Sutton-Smith has suggested that play represents a 'consoling phenomenon' that prepares the player for dealing with life, offering a mechanism for psychologically and cognitively navigating the challenges and difficulties of life. In the past, many of these needs were met through physical play. But in a world where opportunities for physical play are dwindling, it is likely that virtual worlds are emerging as a way to fulfill some fundamental human needs. Henry Jenkins explains this phenomenon even more fully, arguing that videogames represent an 'intensity of experience' and 'complete freedom of movement' that has disappeared as children (and adults) have less physical spaces to play in (Jenkins, 2003). As Sutton describes it, play is a way of achieving both competence and confidence in the world.

Play is a refuge, but it is also more than that, it is a fundamental necessity for many aspects of human development (Sutton-Smith, 1997), a 'behavioral kaleidoscope'<sup>28</sup> of activities that builds holistic confidence and flexible thinking well beyond the specifics of the tasks being practised.

Beyond normal development, virtual worlds and virtual reality technologies are proving helpful in a variety of therapeutic contexts, including work with phobias<sup>29</sup>, post-traumatic stress disorder<sup>30</sup> and other emotional and social issues<sup>31</sup>. Mike Fred is a Behaviour Intervention Specialist who uses *World of Warcraft* therapeutically as part of his work with challenged kids; he sent the following correspondence to the authors at the Terra Nova blog (I am one):

I play *World of Warcraft* with a few of the students from my school. It has proven to be beneficial to the students socially, academically, and therapeutically. In general these students lack social skills. Even when they want to make friends, they often behave inappropriately and tend to push people away. Yet, as these students have gotten involved with playing *World of Warcraft*, they have made social connections - not only with each other, but with other players online. They are all active members of their online guilds... their online relationships are not deep. However, the fact that they make relationships at all is significant. Moreover, two of these students have developed a real friendship.

*World of Warcraft* has proven to be a help academically. One of my students, who has a learning disability, has shown an increased interest in reading as a

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<sup>28</sup> <http://www.nytimes.com/2008/02/17/magazine/17play.html?pagewanted=6&ei=5087&em&en=75584d45be0254d7&ex=1203397200>

<sup>29</sup> <http://www.hitl.washington.edu/projects/exposure/>

<sup>30</sup> <http://www.hitl.washington.edu/projects/ptsd/>

<sup>31</sup> <http://www.wrongplanet.net/asperger.html?name=News&file=print&sid=203>

result of having to deal with the text in *World of Warcraft*. I have also noticed his "tells" and in game emails have gotten easier to read. One of the important factors in getting children to read is giving them a reason which has meaning for them. For this student, finding out where to go to gather Laden Mushrooms in the Barrens is a reason to work harder at school.

The most important benefit from playing *World of Warcraft* with my students at school has been the therapeutic effect. It has proven to be a bridge to one of my students who was withdrawn and disconnected from school. He refused to engage with his social worker, and was determined not to work with his teacher. Through *World of Warcraft* I was able to form a relationship with this student. In the course of our game interactions, he would bring up things that had happened during the day. Perhaps as a consequence of the personal distance afforded by integrate communication, he was able to talk about these things. Over time, he was able to extend this willingness to talk to his teacher in the classroom. I am happy to say that he has taken steps that have started to put him on track for return to public school. In the course of my job, I often deal with students when they are in crisis. I have very little trouble dealing with the kids I play with, even when they are in the throes of a violent tantrum (Fred, 2007).

This was especially powerful for players experiencing physical or social disabilities, who come to experience the world as a less fear-provoking environment. People with autism and its variant, Asperger's syndrome, for instance, who have found virtual worlds a safe place to practice their social skills, as in the island of Brigadoon within *Second Life*<sup>32</sup>. Edward Castronova has referred to this 'socio-emotional therapeutic potential' as 'sanctuary', and I agree that this is a very compelling feature of virtual worlds to the large number of people who find physical reality scary, unfriendly, inaccessible, or just downright unfair:

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<sup>32</sup> <http://www.msnbc.msn.com/id/7012645/page/2/>

I am a very unsocial person, but you wouldn't know that in the game (I have a form of autism called Asperger's)...I do things that I would never do in real life, like talking to people, and joining with others to solve a problem (normally, I solve any problems alone, and would never ask for help)....

- White female, *City of Heroes/City of Villains* player, Disabled (Legally Blind), Age 25-39, Texas, USA

Needing to plan and prioritize has been a big thing for me, as has communication (though I've always found text-based communication much easier than face to face, which is easier than voice with no face a la Teamspeak). I've also found that I can deal with real life social situations better by being able to analyze them as if they were in game situations. (But I'm autistic, so my RL social skills have always been a bit lacking. Having a simplified model to compare them to has been a boon to me.)

Female, *Anarchy Online/Asheron's Call/Dark Age of Camelot/Everquest/Final Fantasy XI/Guild Wars/Saga of Ryzom/World of Warcraft* player, Student, Age 25-39, Nebraska, USA

Myself and my two boys are autistic, and it actually helps in many ways. Me, it helps me be less nervous. For my eldest, it has helped him to be less frustrated and his working with others, in game and out, has improved a lot. It has also helped with his word identification. With my youngest, it has helped his nervousness as well a depression, helped him learn words, and it has tremendously brought him out of his shell so that he will play with other children out of the game now.

- Caucasian female, *City of Heroes/City of Villains/Dark Age of Camelot/Everquest/Star Wars: Galaxies/Ultima Online* player, Housewife, Age 25-39, Tennessee, USA

For some players these worlds are safe practice arenas for developing confidence in their ability to successfully navigate a social life outside them:



For me the biggest contribution is to my social life. I did not have one before. I enjoy being able to connect with other people in a relaxed and cooperative atmosphere.. I used to just hide away and keep to myself. Now I socialise in game with friends and I have made contact with a few outside of the game. I go out and do things socially now. Before I started playing I avoided parties and outings.

- Caucasian male, *City of Villains/Final Fantasy XI/Sims Online* player, Disabled, Age 25-39, Washington, USA

I asked some specific questions about escapism, self-transformation and discovery in the survey, and received the following results, suggesting that for some players, these intangibles are important motivators for continued play. Nearly half of players, however, will not acknowledge these possible motivators, preferring to identify 'escapism' as the primary factor (nearly three-quarters of players cited this as a somewhat or extremely important motivation):

Field Summary for 15(15):		
15. What are your main motivations for playing? [Escapism]		
Answer	Count	Percentage
No answer	946	9.50%
Extremely important (1)	4113	41.30%
Somewhat important (2)	3293	33.06%
Not important (3)	1600	16.06%
Field Summary for 15(2):		
15. What are your main motivations for playing? [Feeling Needed]		

Answer	Count	Percentage
No answer	1344	13.49%
Extremely important (1)	1038	10.42%
Somewhat important (2)	2699	27.10%
Not important (3)	4871	48.91%

#### Field Summary for 15(16):

#### 15. What are your main motivations for playing? [Self-Discovery]

Answer	Count	Percentage
No answer	1690	16.97%
Extremely important (1)	986	9.90%
Somewhat important (2)	2431	24.41%
Not important (3)	4845	48.64%

#### Field Summary for 15(18):

#### 15. What are your main motivations for playing? [Self-Transformation]

Answer	Count	Percentage
No answer	1767	17.74%
Extremely important (1)	1072	10.76%
Somewhat important (2)	2284	22.93%
Not important (3)	4829	48.48%

#### Field Summary for 15(9):

#### 15. What are your main motivations for playing?

[Venting Anger/Frustration]		
Answer	Count	Percentage
No answer	1396	14.02%
Extremely important (1)	1331	13.36%
Somewhat important (2)	2813	28.24%
Not important (3)	4412	44.30%

These breakdowns did vary quite a lot by age and gender, with older and female players more likely to consider transformative impacts.

For other players, virtual worlds allow them to overcome serious physical and mental disabilities that limit or affect their interactions in the physical world:

I am severely handicapped. My opinions are biased towards this. I have difficulty just getting to my computer. MMOs allow me to be just another person amongst many. Something I cannot do in my private life. I may be a little more socially craved than the average player because of this. I've had a lot of trouble with being social in recent years. The greatest impact is probably just the fact that interacting with others through MMOs makes me feel like a human being. I don't have to worry about looks of pity or being treated like a child when in game. There are times I will log into a game and do nothing but chat. I have computer games where I can play by myself, but I have come to rely on that human interaction through game. Between MMOs and my daily exercises, I am keeping out of an adult day care facility. These games keep my mind from turning inwards where it can rot.

- Caucasian Male, *City of Heroes/City of Villains/GuildWars/Ryzom/World of Warcraft* player, Disabled, Age 25-39, California, USA

My chief reason for playing *City of Villains* was because I could not, physically, do much else. I was recovering from a traumatic brain injury and was going

stir-crazy with the few hours a day I was actually conscious. This gave me a way to interact with RL friends because I was unable to get together with them. From there, it stemmed off into a way to communicate with them, and form other friendships. I have met several people from my super group at various locations, and that alone is worth the playtime.

- Dutch-Indonesian Female *City of Heroes/City of Villains/Guild Wars/World of Warcraft* player, Artist, Age 25-39, California, USA

Usually when I have trouble with a part of the game first I try to figure it out myself by whatever means. then if still unable I will use any and or all other options available until I get a clear understanding. MY main motivation for playing would be for something to do other than sit around doing nothing. I have several health issues that keep me from work including but not limited to a form of agoraphobia and other social, physical and mental problems. This lets me keep my mind occupied a little on something trivial instead of my normal worrying and racing thoughts while also allowing me some interaction with others that I would normally shun as I don't have to be there in person and have a mask up if you will for lack of a better description. Though I DO NOT try to hide who I am or trick people into thinking I am other than what I am.

- Caucasian Male, *City of Heroes/City of Villains, Guild Wars, World of Warcraft* player, Disabled and unemployed, age 25-39, Massachusetts, USA

For others, the worlds simply allow them to overcome loneliness and isolation by knowing that at any time they are likely to be able to find someone to play and/or chat with (Ducheneaut, Yee et al. 2006):

This is my escape from reality, my dad is dying of cancer my grandfather just died this week, my job sucks and basically I have no friends anymore since I got married, so this is the only enjoyment in life,,, and my wife is a great person about it also.

Caucasian Male *City of Heroes/City of Villains* player. Operating Technician,  
age 19-24, Ohio, USA

Sometimes the sense of isolation comes from living in a geographic area around people with whom one does not share many interests:

It's provided a community for geographically diverse though likeminded people. I don't know many people with the same interests locally. I do find that players of these games share interest in books, movies, music, and have a lot of shared ideals and ethics. In contrast, locally, people like to play softball, listen to country music, do not read beyond the requirements of work, and have a parochial outlook and intolerance of things unfamiliar. I enjoy some of these things, but not as much as I enjoy those things I have in common with other players I find in game.

Male *Anarchy Online/City of Heroes/City of Villains/Everquest* player, Real Estate Agent, Age 40-54, Texas, USA

Meeting new people and talking about real-life "stuff", world and entertainment news, relationships, etc. is always a bonus when running from task to task.

- Female *City of Heroes/City of Villains/Dark Age of Camelot/World of Warcraft* player, Teacher, age 25-39, Virginia, U.S.A.

## **7. 4 Playing with Identity**

As Miroslaw Filiciak puts it, "To be visible means to be real. When we make ourselves visible on the screen, our self becomes more real... Our self is more liquid than ever... if people play games eagerly to be able to shift their identities, they must be deriving pleasure from that" (Filiciak, 2003). For some players, virtual worlds allow them the freedom to try things they wouldn't in real life, even in ways that are socially controversial:

I only play online games for the community and for the faux identity. Because of my appearance and inability to speak with confidence, I'm most adept at expressing myself from behind a keyboard/sketchbook. I don't necessarily learn

much from MMOs, but I meet lots of new people. I used to be quite depressed way back when I didn't play MMOs. But now I've seen that there are more bright places to life, such as friendly strangers who will help even though they don't know you. I practice making jokes. Now people actually laugh at times when I make them...

- Korean male, *City of Villains/Guild Wars/Ragnarok Online* player, Student, Age 14-18, South Korea

The only MMORPG that I ever played and really enjoyed was *Ultima Online* in its early stages. The game allowed you to steal, murder, fight and many other things. Dying in this game meant you lost everything on your body. I lost interest in MMORPGs because the mechanics changed so I couldn't take people's things. In essence I enjoyed MMORPGS because I could be a horrible person that I could never be in real life. My favorite reason to steal or kill was not to gain an item but simply from the raw satisfaction depriving someone else of something gave me. The more they desired it the more satisfaction it gave me to take it away from them, usually then to give it to someone else. In essence I suppose I was a griefer. However within *Ultima Online* (at that point in the game's life) this was perfectly acceptable and if you left the comfort of town then you could lose everything. As virtually no mmorpg allows me to cause this kind of grief anymore, I lost interest in these kinds of games.

Caucasian male, *City of Villains/Ultima Online* player, age 19-24,  
Student/Technician, Australia

However there were other things in this participant's survey responses that revealed a different perspective: he did not view the games as social at all.

Other players certainly revel in the attention, even when negative, that being transgressive brings. This player was quite matter of fact about the issues he experiences with other players, yet elsewhere he mentions how much he enjoys helping fellow players:

The expression of creativity brings me a great deal of joy, but in back story... even unwritten... and costume design. I like imagining characters more than I like playing the game. I pretend that I'm female. In fact, I've cultivated relationships with men and used them to my advantage. We're not talking once in a while. We're talking years long. I tend to anger people.. a LOT. Consequently I'm a drifter. I cause a great deal of conflicts and get booted or leave. I make a great deal of effort to be as helpful as possible. Even playing little games so I can reward said "newbs". I believe I may be one of the more unique personalities in *City of Villains* history. My main character, Absymalyxia, was actually rather well known and reviled about the server and the forums.

- Male City of Heroes/City of Villains/Eve Online/Everquest/Final Fantasy XI/Guild Wars/World of Warcraft player, Unemployed, Age 25-39, Michigan USA

Another area of critical skill building is players' ability to play with identity. As the previous player alluded, gender-bending is commonplace, but does not typically extend into deception:

As I play women to be grouped more easily I played and communicate often with women. In real life, it increased my male to female communicability. Great for picking up women on chat.

- French male, *City of Heroes/City of Villains/Dark Age of Camelot* player, Computer Freelancer, age 25-39, Paris, France



**Figure 32. The male player behind the avatar ‘NoPants’ does not mind being challenged regarding his real life gender.**

Interestingly, female players are much less likely to gravitate towards male avatars. I, for instance, find that an unattractive avatar is so disruptive to my game play that I will stop playing if I can’t do something about it. This discussion of avatar attractiveness has been floating around for some time, but generally with a bit more righteous indignation from people who think some avatars are a bit too attractive, and in all the wrong ways. Male gamers are stereotyped as liking sexy (hypersexual, even, or at least that's what's served up) avatars, and that disturbs a lot of people. However in most discussions with male players about gender bending, they say they do it because if they’re going to be looking at a toon’s bottom for hours on end, they want it to be a nice attractive female one (and in *City of Heroes/City of Villains*, the female characters also move and run in a much more attractive fashion than the males). The idea of men picking female characters based on aesthetic or even playful considerations runs contrary to what is usually emphasized about gender



bending, that 'gamers, both male and female, say female avatars confirm what they already knew: Being a pretty girl has its perks. Female avatars are often the center of attention and showered with gifts such as swords or armor by other characters'.

Brenda Braithwaite apparently thinks that it has little to do with exploration of sexual identity. Women are more likely to think of their avatars as idealized versions of ourselves, perhaps because women inhabit their avatars more deeply.

In *Play Between Worlds*, T.L. Taylor argues that the issue of avatar attractiveness is not about aesthetics, but about choice:

While there is a fair amount of diversity among female players about which avatars are preferable, there seems to be a consistent message that they want a choice in how they look online. This is not about women not wanting to look attractive or even sexy. Women hold complicated relationships to even stereotypically gendered characters (Taylor, 2006).

As the variety in people's reactions to males with female characters has always been interesting to me, I would like to say that I fall into the category I've found most aptly described as the "This is my 'I got tired of looking at my leather-clad man-butt for hours on end.' character." group. Some people think I'm a perv poser, some people are just made uncomfortable by it, most of the female players I know find it amusing and fitting (I'm very communicative for a guy), many people have no real opinion on the subject one way or another, and some people are convinced (despite my explanations) that I am in fact a woman. (Usually grounded in inadequate female contact, I believe.) In regards to the *City of Villains* character above (Mistress of Thorns)- I designed this character to be very beautiful and very female in the exact \*OPPOSITE\* manner of the typical "City of" male-made, under-dressed, female BOOB character. She has a pear shaped figure, has little "makeup", is fully clothed (for a villainess), looks nothing like a model, and is very pleasing to the eye nonetheless. (I made this character to try and provide an example that countermands the bizarre trends in women's appearance in the media nowadays for the sake of trying to broaden the real-world horizons of other males

who play the game, as well as to provide positive reinforcement of women's natural beauty for female players. - My own little social experiment... Thus far I've gotten a few positive comments from male and female players alike.)

- Male, *Asheron's Call*,/*City of Heroes*/*City of Villains*/*Eve Online*/*Everquest*/*Guild Wars*/*Matrix Online*,/*Ultima Online* player, Maritime, age 25-29, Florida U.S.A.

In some cases, the most important improvement is to one's awareness and confidence:

My leadership skills have improved quite a bit. I'm the leader of a very successful villain group and through that I've learned what I'm capable of. (and I never would have dreamt that I would be capable of creating such a great group). Immensely. My in-game friends are what keeps me coming back to this game. They've taught me quite a bit of game play and turned me into a great player. Alongside, just having good ol' conversations w/ them.

- Caucasian male, *City of Heroes*/*City of Villains* player, Student, Age 19-24, North Dakota, USA

I was taught to be self sufficient, which has had the derivative effect of expectation that I must "go it alone" in approaching tasks. As a child, I moved around the country and was frequently in the company of adults more than children outside school hours. Some goals cannot be achieved in the game without cooperation or teamwork. It's made it easier to accept help and even ask for it in real life situations.

- Male AO/*City of Heroes*/*City of Villains*/*Everquest* player, Real Estate Agent, Age 40-54, Texas, USA

I have learned that praise in a team environment is incredibly important.

- New Zealand Male, *City of Heroes*/*City of Villains*/*Final Fantasy XI*/*Guild Wars*/*Sims Online*/*Star Wars: Galaxies* player, Student, Age 14-18, Auckland, New Zealand

Given this restraint on 'bad' behaviour (dominance of the strong over the weak) and reinforcement of "good" behaviour (cooperation), one would expect participants to be more cooperative in real life. I'd like to see the findings of the study. If we allowed children to play the game, would they become more cooperative in their relationships than those that only participated in competitive games?

- Male *Anarchy Online/City of Heroes/City of Villains/Everquest* player, Real Estate Agent, Age 40-54, Texas, USA

## **7.5 Conclusion**

As with any research project, I came to this study with a set of hypotheses based on my 20 years of experience of a gamer. And as an anthropologist having conducted a 4 year ethnography, I felt like I had a highly intuitive understanding of the space I was studying. However, there were surprises even for me, primarily in the realm of how people perceive and describe their MMO gaming experiences. When explanations of what the spaces mean varies so significantly from 'it's just a game' to 'it changed my life completely', it is clear that there is a lot more work to be done in this area. My hope is that this thesis makes it clear that these environments are absolutely hives of incredible social and learning activity; quite often well beyond the imaginations of those not involved with them. I would argue that anyone, adult or child, could benefit from a bit of time spent in a virtual world, and that requirements such as these are very likely to become part of various curricula in the coming years. Virtual exchange programs are likely to become the norm, as well, but more of that in the next chapter.

## Chapter 8: The Future of Learning in Virtual Worlds

The future has already arrived. It's just not evenly distributed yet.

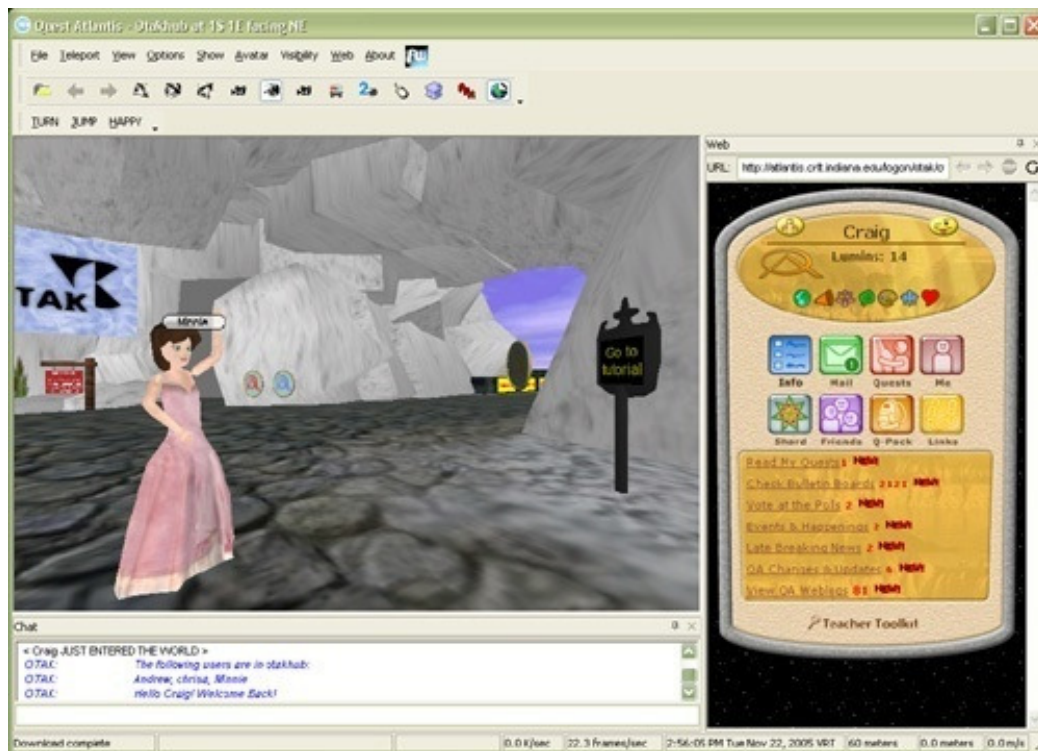
- William Gibson

### 8.1 Introduction

Despite fears about possible negative effects of play in virtual worlds, or even fears that terrorists might soon use them for nefarious purposes<sup>33</sup>, there have already been considerable movements towards creating virtual worlds for educational purposes. An exploration of all of the efforts being undertaken in this arena alone could be the subject of a whole other doctoral thesis, but there are a few notable examples. *Quest Atlantis* (see Figure 33) is a multi-user virtual environment (MUVE) aimed at children aged 9-12 and has been deployed to various schools in the United States as a way of augmenting studies of ancient cultures. The key to these explicitly educational worlds is that they are typically designed to provide in-world challenges that motivate outside learning, often designed around specific curriculum. This kind of approach can work quite well, as it is often the experience played out in the world that creates the kind of compelling relevance that makes learning more effective.

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<sup>33</sup> <http://www.linuxinsider.com/story/Virtual-Worlds-Attracting-the-Wrong-Kind-of-Attention-61553.html>



**Figure 33. A screenshot from the educational world *Quest Atlantis*.**

Another of these environments is funded by the U.S. National Science Foundation (NSF). The *River City Project* (see Figure 34) is specifically designed to help middle grade students develop scientific inquiry and 21<sup>st</sup> century skills. As with *Quest Atlantis*, the virtual world is encapsulated in the larger learning environment which helps contextualize those activities vis a vis the established curriculum. From the *River City* website:

As visitors to *River City*, students travel back in time, bringing their 21st century skills and technology to address 19th century problems. Based on authentic historical, sociological, and geographical conditions, *River City* is a town besieged with health problems. Students work together in small research teams to help the town understand why residents are becoming ill. Students use technology to keep track of clues that hint at causes of illnesses, form and test hypotheses,

develop controlled experiments to test their hypotheses, and make recommendations based on the data they collect, all in an online environment<sup>34</sup>.

The adeptness with which the developers have captured the entertainment virtual world metaphor and combined it with established educational objectives is admirable.



**Figure 34. The *River City* Project interface**

In other instances, worlds geared towards children with a more entertainment-oriented charter have run in game events with educational objectives. Yasmin Kafai, a professor of education at the University of California, Los Angeles worked with developers of the virtual world *Whyville* to run an experiment that involved unleashing a virtual disease, dubbed 'whypox', on the community (Neulight & Kafai). A similar, but unintended, outbreak in *World of Warcraft* attracted the attention of

<sup>34</sup> <http://muve.gse.harvard.edu/rivercityproject/index.html>

the U.S. Center for Disease Control, who requested the simulation data <sup>35</sup>, and it is being suggested that virtual worlds might be powerful tools for both modeling and practicing responses to such epidemics. There are also efforts underway to use *Whyville* as a vehicle to teach children about financial matters (hosted by Toyota Financial Services, who will also be using the opportunity to teach them how to use a loan to purchase a car) <sup>36</sup>.



**Figure 35.** Image depicting avatars in *Whyville*, some of whom are infected with the 'Whypox'

*Second Life* has also achieved a significant reputation as a home for educators. Though many of the learning experiments involve the replication of physical educational environments, there are other examples, including the collaborative building of interactive molecular models and the like (Rymaszewski et al., 2006).

<sup>35</sup> [http://www.escapistmagazine.com/articles/view/issues/issue\\_120/2549-World-of-Germcraft](http://www.escapistmagazine.com/articles/view/issues/issue_120/2549-World-of-Germcraft)

<sup>36</sup> [http://www.news.com/Are-virtual-worlds-the-future-of-the-classroom/2009-1041\\_3-6081870.html](http://www.news.com/Are-virtual-worlds-the-future-of-the-classroom/2009-1041_3-6081870.html)

The most notable example might be efforts undertaken by the non-profit group Global Kids, a program that ‘the urgent need for young people to possess leadership skills and an understanding of complex global issues to succeed in the 21<sup>st</sup> century workplace and participate in the democratic process’<sup>37</sup>. Their specific approach has been to conduct ‘experiential workshops’ within *Second Life* that allow young people to understand the intricacies of such global issues as child trafficking and genocide.



Figure 36. A Global Kids collaborative space within Teen *Second Life*.

## 8.2 The Future of Virtual Worlds

It is easy to look at the graphs of MMO growth over the last few years and think that it's a game category that will continue to grow exponentially<sup>38</sup>. In fact, since games have always been largely social (and single player gaming an anomaly that resulted largely from technological limitations), once people have a taste of gaming with others few will choose to go back to solo play. Other players represent that sort of super sophisticated AI that no NPC can begin to approach. For many players, the

<sup>37</sup> <http://www.globalkids.org/?id=2>

<sup>38</sup> <http://www.mmogchart.com/>



only thing that makes the average MMO grind (the often tedious process of leveling a character) at all fun, for instance, is the chaos and uncertainty brought forth by other random players. Social structures make games more complex and interesting, to be sure.

We appear to be at interesting crossroads with regard to the continuing appeal of the types of virtual worlds we are currently seeing in the marketplace. For one, some developers and publishers are finding it difficult to expand their player base because of negative perceptions of virtual worlds:

I had the opportunity to talk to some non-MMO gamers about why they have not been bitten by the MMO bug and have been surprised by how passionately some of them feel that MMOs are not for them. Here are some of the reasons that have been cited:

- Some people simply refuse to play a monthly fee on top of paying for a game. This seems to be a matter of principle for many, but is often related to the fact that they feel trapped into one game environment if they are paying the fee. They do not feel that they can pick up a game, drop it for a while, then pick it up again later if the mood strikes them. (the Asian predilection for item-supported models <sup>39</sup>, etc. seems to be a decent way to deal with this issue)
- The second most common thing I hear is that people don't feel like they have the time for an MMO, even if they spend lots of time playing videogames otherwise. The perception that one has to play upwards of 30 hours a week in order to play properly is a huge barrier to a lot of people who perceive themselves as more casual gamers.
- Tied to the previous issue is the idea that one's time is not one's own in an MMO. For a lot of people, having to adhere to a guild's schedule or priorities

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<sup>39</sup> [http://www.next-gen.biz/index.php?option=com\\_content&task=view&id=3081&Itemid=32](http://www.next-gen.biz/index.php?option=com_content&task=view&id=3081&Itemid=32)

is a responsibility they are unwilling to take on. They hear stories about [mandatory raids](#) and other prescribed activity and think (rightly so, perhaps) that it sounds an awful lot like a job. And unless one does not already have a job (the core MMO audience of university students, it would seem), then who needs a job that doesn't pay some real cash?

- A lot of people complain that it is too hard to just jump into an MMO and start playing. There are complex social rules to be learned, grouping can be tricky and time-consuming, and navigating huge worlds can take a ton of time just in terms of travel. Stories abound about people logging on at lunchtime to play, but not even being able to prep and find playmates in that time.
- Although it is appealing to play with others, it is a double-edged sword in a level-based system where people have to play at a similar rate in order to be able to continue to play with each other. *World of Warcraft* is particularly problematic in this regard (to the point that people have to work hard to synchronize quest chains, etc.), but *City of Heroes/City of Villains* is somewhat better with its side-kicking/exemplaring system. Still, it is a big problem for those buddies who want to invest significantly different amounts of time in the game.
- Many standard videogame players, especially those attracted to adventure/role playing (RPG) genres, perceive that MMO game play is extremely non-linear with too few concrete goals. For them, there is too much freedom of choice, making play difficult and diminishing the satisfaction of progress (aside from leveling, which while pleasurable in that Skinnerian/dopamine unleashing sense, may not be so appealing to those who look for more complex challenges).
- A LOT of people fear becoming addicted, even people working in the game industry. Nearly every person I have talked to has had some terrible story to tell of someone they know who knows someone who locked themselves in their room for a year or two and completely forgot the real world after getting sucked in by some MMO. And then there are the stories of silly

Koreans falling over dead or Chinese gamers killing each other for virtual swords which make people think that MMOs are like some kind of crack that makes completely normal people go crazy (not to mention the possibly apocryphal stories about people wearing Depends so they don't have to afk [Away from Keyboard] for their bio breaks).

- Finally, many non-MMO gamers think that MMOs mean, by definition, player vs. player, or more accurately open player killing (PK-ing). And no one wants to pop into a game world and get killed right off the bat. Perhaps just as important is their preference to not play in environments where that sort of behaviour might be rampant, yet they are not knowledgeable to pick and choose between the games (or servers or factions within games) that offer or do not offer this type of functionality. It is true that in the beginning most MMO games allowed this sort of play, but there has been a lot more variety introduced in recent years.

So what does this all mean for the burgeoning virtual world marketplace? Is there still an untapped audience for MMOs? Emerging titles like *Free Realms* from Sony Online Entertainment have taken novel approaches to the MMO paradigm, introducing worlds focused on exploration rather than combat (an older title, *A Tale in the Desert*, was similar in this regard), and encourages children to write stories as part of the play experience. Naysayers suggest that maybe just about everyone who might be compelled to play an MMO has already been tapped by *World of Warcraft*. If so, what effects are those experiences having on both those gamers and those who observe their infatuation? MMOs seem frighten a lot of people, even relatively hard core gamers - and that can't be a good thing. What is it that compels millions of individuals to spend the equivalent of part or full-time job in these worlds?

One of my informants, Carrie Tatsu [handle], runs a virtual pets business in *Second Life* that she started after the birth of her first child. The endeavour allows her to both work from home and utilise her art, new media, and entrepreneurial skills. I had occasion to meet her grandmother, who is completely confounded as to why Carrie's husband has recently left his more traditional job to work with Carrie in

*Second Life*. It's a 21<sup>st</sup> century digital business and profits are good. Now their son needs to learn the skills that might make it possible for their son to take it over and evolve it someday, should he want to. Will it be holodecks by then? Or perhaps people will have small 3-D projectors that will allow them to walk the streets of NYC with their non-defecating, off-switch-having digital pets.



**Figure 36. Zooby Island in *Second Life*, where players can purchase virtual companions**

Despite real economic successes like Carrie's (more of such stories are documented in the film *Ideal World*), parodies like the South Park episode in 2007<sup>40</sup> inspired by *World of Warcraft* have alerted mainstream non-gamers to the darker side of the MMO compulsion. The *Everquest* Widows list was in a gleeful frenzy after the episode: they viewed it as a sort of unintentional public service announcement for the perils of online gaming. Yet it is also easy to look at that sort of thing and think, virtual worlds have really arrived. They've been parodied on South Park, written up repeatedly in the mainstream media and Toyota even made a commercial for their

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<sup>40</sup> [http://en.wikipedia.org/wiki/Make\\_Love,\\_Not\\_Warcraft](http://en.wikipedia.org/wiki/Make_Love,_Not_Warcraft)

Tacoma pick-up truck that was based on an MMO (*World of Warcraft*, specifically) theme <sup>41</sup>.



**Figure 37. A scene from the South Park episode 'Make Love Not Warcraft'.**

As Jim Rossignol suggests:

MMOGs have, more than any other game genre I have encountered, suggested ways in which gaming might progress. They're disappointing in all kinds of new and unusual ways, but that's because they offer us an amazing insight into what could be. The fact is: we're really still in the most basic infancy of this technology, and no one has really figured out how to make it work to its fullest. *World of Warcraft* might seem incredibly polished and immensely successful, but it is also one of the keenest demonstrations of where the boundaries currently lie and how we might be able to go beyond them. I believe all the MMOGs suggest something about what the

technology of putting thousands of people into the same game can accomplish, but I also believe that none of them have yet used that technology satisfactorily. This is, in part, because these games have been so ambitious, they have opened up immense spaces of possibility - spaces far greater than their capacity to fill them. The current generation of MMOGs almost seem like exercises in elements of what is to come, giving our imaginations fuel enough to see where the technologies of online gaming might take us (Rossignol).

Early visionaries saw a single 'metaverse' that is said to exist in parallel with our universe; but we can already see that the synthetic world will resolve itself into a thousand islands, each separated from the next by many miles of ocean (Castronova, 2005, p. 268).

Some players are quite articulate and philosophical about the possible meanings of our forays into digital spaces:

I truly do believe that MMOs are a step forward in our social evolution. What we see now as games are quickly evolving into things like *Second Life*, which do not have many game play components to them. Once we move beyond these simple interfaces, such as keyboards and mice, and move towards direct control of our computers through the cerebral cortex (pretty far off, I know, but I love to think about it), and once we are seeing things through our eyes instead of monitors we should start to really understand more about what we call "ourselves" in these MMOs. They will allow for social experiments with little real world consequences and other such scientific explorations into human interaction that we have not even begun to imagine.

- Canadian Male, *Anarchy Online/Asheron's Call/ City of Heroes/City of Villains/ Dark Age of Camelot/Everquest /Final Fantasy XI/Guild Wars/Ultima Online/World of Warcraft* player, Systems Analyst, Age 35-39, Calgary, Canada

### 8.3 The convergence of MMOs and social networking

At the Develop UK event in 2006, Thomas Bidaux of NCsoft Europe asserted that 'everything we think know about MMOs is wrong'<sup>42</sup>. Mr. Bidaux has a number of opinions about how MMOs are going to be revolutionised via platform innovations, Xbox Live style persistence in terms of player rankings and achievements, novel payment models, as well as a 'a lifestyle revolution' enabled by our experiments with Web 2.0, 'collective intelligence (e.g. Wikipedia) and viral content (e.g. *MySpace*)' that 'provide opportunities for community and collaborative efforts'. The 'lifestyle revolution' is the one that intrigues me the most because I think it hints at something quite interesting, without having any tangible referents whatsoever. But maybe what he means is that the whole basis for the MMO might change, based on our collective experiences with social software, collaboration and the like.

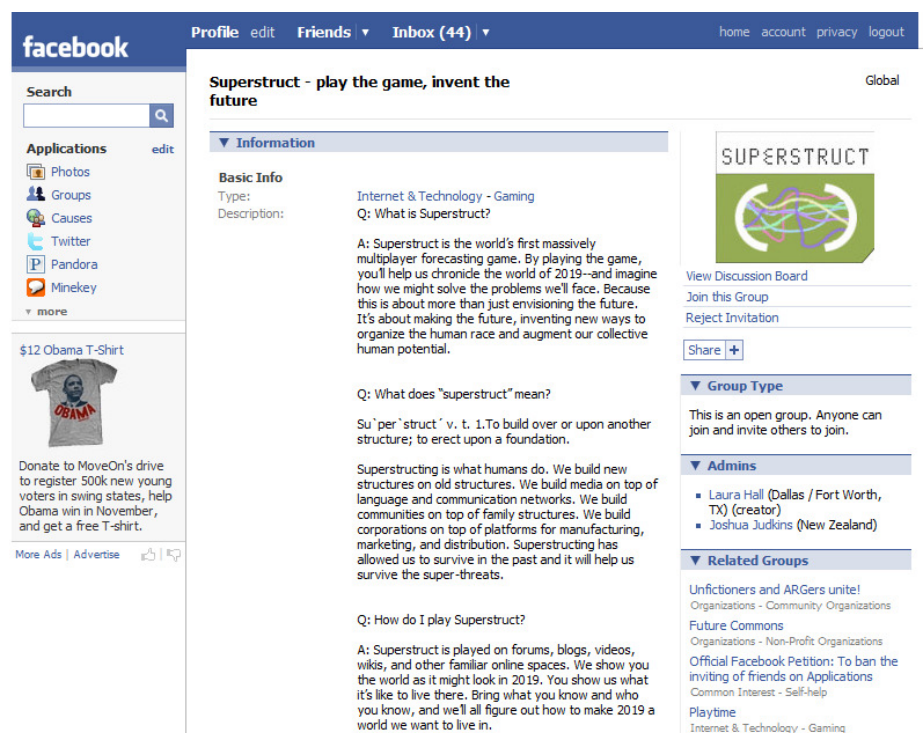


Figure 39: Superstruct Facebook game (2008).

<sup>42</sup> <http://www.joystiq.com/2006/07/14/develop-everything-you-know-about-mmos-is-wrong-apparently-/>

**MMO games are now taking a variety of forms and utilizing a range of platforms, including popular social networking sites.**

In Japan there is a rather pervasive idea in the game development community of the MMO as a small subset of a larger community experience, rather than the game as the hub around which community grows. Although I had not given it a great deal of thought till then, it struck me as very intuitive that a social network should be paramount, and that the way MMOs have developed elsewhere is actually quite counter-intuitive, encouraging the growth of communities with quite ephemeral characteristics, the pick-up group being symptomatic of a need that is otherwise unfulfilled because of a lack of community-centrality outside of guild constructs. One Japanese company, GaiaX , is creating a community platform that is basically *MySpace* on steroids, where users also have the option of inviting their friends into a variety of play activities, including MMOs. Their management has developed this strategy from the ethos that connecting people, especially in Japanese culture (where connection is a really big problem), is of core importance; the activity that unites people is secondary, but it's the primacy of the social network that must be fostered. In the United States, another company, Kaneva, has just launched a beta service that they are promoting as a social-networking-meets-virtual worlds service.

Ever since I visited GaiaX and gave some thought to this approach, I've thought it strange that we give so little credence to the importance of the social network, whether it has been made explicit or not. Players frequently lose contact when they move to other worlds and have no way to leave forwarding info. Sometimes entire worlds are lost when game companies fold. The issue is that few MMOs are designed for sociability first, and for game play second. This is not to say that this approach, in terms of design, is even feasible, but I have found it striking how few developers can answer the question of how they think about sociability, or even recognize that this is an issue (Rich Vogel, who worked on *Star Wars: Galaxies*, was one of the few I've



talked to who could). Community features are often tacked on, as if in afterthought, when in an MMO environment, they should really be central.

But let's say we do figure all that out. What does the Metaverse look like in terms of technology architecture? Is it, one big crazy behemoth, or like the Internet, are there actually a bunch of small metaverses that are not consistently navigated by the same people (as in the English-language Internet vs. the Chinese-language version), but the basic architecture and open standard protocols allow for interoperability and communication to whatever degree desired? And how will that be accomplished? Will it take a total MMO platform? And if so, are we then talking about skinnable worlds all based on the same architecture? Perhaps the back-end of the Metaverse is the virtual world Equivalent of Amazon's business services, spinning fully-branded user experiences off of one tightly-integrated, hugely interoperable back-end? Heck, even Microsoft and Yahoo have recently merged their IM clients. Are we on the cusp of becoming one big interoperable digital family?

#### **8.4 Other Applications**

In addition to educational endeavours, many corporate entities are exploring the possibility of using virtual worlds to assist their distributed work teams, or to train employees in environments that simulate the physical realities they might encounter (Figures 40 and 41):



**Figure 40. Sun's Project Wonderland**



**Figure 41. IBM's Innov8**

It is the U.S. military, interestingly, that has taken the most interest in the idea of massively multiplayer online games as a practice arena for important military skills. In a recent report, *Massive Multiplayer Online Gaming: A Research Framework for Military Training and Education*, developed by the U.S. Department of Defense (DoD) in collaboration with researchers from Indiana University and Florida State University, the seriousness of interest in the phenomena surrounding these games becomes explicit:

With this focus on emerging technologies, the military is clearly interested in exploring the use of online collaborative games to train staff on the modern day intricacies of combat and noncombat operations. At the same time, the increasing focus on a remote-controlled agents has raised expectations and excitement for realistic simulations and games -- especially MMORPGs. The military is developing games that could host thousands of networked players. In these games, players potentially could participate for months or years in different roles and later reflect on the consequences of their decisions and actions. Debriefings or reflective processing of these games could help the user understand the purpose of the game and generalize it to different situations. The immediate goal, of course, is to enhance decision making, problem solving, and reflection skills in the context of a military operation (Bonk and Dennen, 2005).

It seems likely that virtual worlds will be increasingly recognised as a way to explore various facets of relationships, particularly those that have to be conducted at a distance. *Psychology Today* reported in the May/June 2006 issue <sup>43</sup> on a Japanese study that found 'Text-messaging makes for more intimate friendships. Pals who only communicate face-to-face have less chummy relationships than those who also let their fingers do the talking'. In the future, rather than an either/or proposition of physical friends or virtual ones, perhaps the closest friends will be those that players have both virtual and physical relationships with:

Playing with my grilfriend brings us together .

– White male, *City of Heroes/City of Villains/Eve Online, Guild Wars, Star Wars: Galaxies, World of Warcraft* player, Game Store Clerk, Age 25-39, Reykjavik, Iceland

I live far from most of my friends and family, playing an online game makes them close for me and I can interact with them and hang out with them. It might sound sad but its like being right next to that person its a great way to bridge distances.

- White Female *City of Heroes/City of Villains/Guild Wars* player, Student, Age 19-24, Pennsylvania, U.S.A.

### **8.5 Virtual Worlds as Practice Arenas for 21st Century Skills?**

Is it conceivable that massively multiplayer online games might be officially leveraged into practice arenas for 21<sup>st</sup> century skills? As the platform evolves, it seems likely that production and maintenance costs will be lowered and we might see 'the splintering of MMORPG environments into hundreds of different forms, each aimed at a very particular audience' as they move 'out of the pure entertainment space' and into educational and business uses.' We may even see that 'many kinds of employee training will be done in virtuo using corporate and

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<sup>43</sup> [http://www.psychologytoday.com/pto/2006\\_05.html](http://www.psychologytoday.com/pto/2006_05.html)

public MMORPGs as training grounds' (Kelly, 2004). But will this possibility result in the social and cultural shift needed, or merely result in shoving the square peg of traditional curricula into the round hole of open-ended, self-organised, egalitarian environments? Will our institutions be willing and able to relinquish control to make self-organisation and respect for individual autonomy a reality?

For what the world really needs is a shift in the way we view people and their contributions. In our workplaces, we need to engage in a process of 'seeing people as resources, not job descriptions,' recognising that 'valuable talents, knowledge and experience' 'often remain concealed and untapped' as people stick to their 'job descriptions and chains of command' (Kline and Saunders, 1997, p. 132-152). But what we also need is a shift away from thinking of learning as stuffing information into individual heads with the hope that it somehow manages to be actionable. In fact, a major shift is to understand that people are part of a network of resources, distributed across the vastness of physical and virtual space:

'The power of distribution - of storing knowledge in other people, texts, tools and technologies - is really the way in which all of these things are networked together. The really important knowledge is in the network - that is, in other people, their texts, their tools, and technologies, and crucially, the ways in which they are interconnected - not in any one 'node' (person, text, tool or technology), but in the network as a whole. Does the network store lots of powerful knowledge? Does it ensure that this knowledge moves quickly and well to the parts of the system that need it now? Does it adapt to changed conditions by learning new things quickly and well? These are the most crucial knowledge questions we can ask in the modern world. They are hardly reflected at all in how we organize schooling and assessment in schooling' (Gee, 2003, p. 185)

Semi-MMO games like Passively Multiplayer Online Gaming (PMOG) allow players to use MMO constructs as they go about their normal activities. Players can also design quests for other players, lay mines, and other activities that create a playful overlay on the Web as a whole.



**Figure 42 - Passively Multiplayer Gaming (<http://www.pmog.com>) utilizes the MMO metaphor on the Web.**

There is a big lesson from digital game environments, both the traditional and the novel and innovative. People are enormously capable when given the space and motivation, even through simple game play, to flex their cognitive and social muscle in an environment where anything is possible and experimentation is safe, permissible and desirable. Among the many equalizing phenomena of virtual worlds, players describe a complex meritocracy in which they are 'judged by their characters' actions,' enjoy 'spontaneous kindness' leading to 'genuine friendships,' and most importantly, feel like 'they are making progress on an emotional level. They're not just getting ahead in the virtual world, but actually maturing, growing, learning from their experiments with behaviour, and reformulating their views of themselves and their fellow human beings as a result of their experiences in the virtual world' (Kelly, 2004, pp. 62-85). These experiences represent opportunities for growth, expression and personal transformation that may not be available elsewhere. Yet this type of growth is exactly what a world focused on soft skills and emotional intelligence requires. In many respects, many entertainment-based virtual worlds represent the ideal state for any organisation, one in which 'each individual makes a unique contribution by marching to a different drummer but with an underlying common sense of purpose and direction' (Kline and Saunders, 1997, p. 139). Is this to say that

classrooms should be replaced with MMOGs? Not at all. It is only to say that we should be paying close attention to the complex social structures and learning mechanisms that are inherent in such environments, rather than dismissing them as a 'waste-of-time' or mere child's play.

Paying close attention means funneling resources into official studies of emergent phenomena and spontaneous learning in a range of digital environments. With this data in hand, we may find ourselves better equipped to envision a future where learning is a natural, yet guided process that fits the curves and nuances of our complex lives. Digital media and games particularly, present both enormous opportunities and a range of dilemmas that cannot be understood by taking a one-dimensional view rooted in any one specific discipline. What is necessary is a sort of consilience, a willingness to embrace various perspectives on the phenomenon, from the biological to the social sciences, performing arts, computer science and engineering.

Modern communication technologies and the ensuing knowledge economy have brought unprecedented change requiring both new skills and competencies. For over a decade, young people have been increasing their socio-cultural literacy through their participation in online digital worlds (before that even, in text-based worlds). The lessons we are learning are inherent in the social structures and dynamics of online learning. As Buckingham (2003) notes 'the aims of media education have often been defined as a matter of developing students 'critical' abilities'. Whether in communities of practice or through games and simulations, online environments can be an effective means for obtaining essential 21<sup>st</sup> century competencies. Instead of trying to close the gap between the US and other nations based on test scores, we could be taking a leadership position and developing creative solutions to replace our outdated schools with the knowledge and technology-based models so needed to meet 21<sup>st</sup> century demands (Brown and Duguid 1991; Gee 2003; Squire 2003; Squire and Jenkins 2003; Gee 2004; Shaffer, Squire et al. 2005; Steinkuehler 2005; Galarneau and Zibit 2007). In many respects education and learning is about breaking down barriers of what is known to bring understanding of what is possible.

Is it not time to break down the boundaries of today's schooling and build the models made possible through the advances of technology and online learning environments? For one, will we be able to consider the possibilities afforded by spaces we have largely considered frivolous?

There are definitely some negative things that can be said about MMORPG's. People with social issues can often be encouraged to pull further in or to be even more cruel depending on the environment they put themselves into and what they go looking for. I think a lot depends on what the people going in make of things. There are bad people in every walk of life, but just because a few bad seeds are out there you cannot stigmatize an entire population. That's the purest form of ignorance. We criticize what we don't understand, and we look for scapegoats for any social problems rather than placing the blame ourselves. Gaming has been good for me. It has helped my social skills and it hasn't detracted from my real life, made me more violent, or given me an inability to distinguish between fantasy and reality. Partially, my parents were very good at making sure none of those things happened - but eventually we all become adults and are responsible (or should be held responsible) for our own decisions.

- Caucasian female, *City of Heroes/City of Villains/Everquest/FF/GUILD WARS/SO/STAR WARS: GALAXIES/THE MATRIX ONLINE/Ultima Online* player, Writer/Editor, age 25-39, South Carolina, USA

In a way, these models for the future are what the younger generation intuitively as they embrace modern communications technologies and play in virtual environments. As Dede argues (Dede, Salzman et al. 1996), necessary skills in the 21<sup>st</sup> century revolve around forging connections, handling information and thriving in chaotic environments. Learning is about achieving those competencies, not memorizing and repeating facts out of context. It is about confidence and competence in the face of uncertainty, novelty, chaos and fuzziness.

## Conclusion

If knowledge can create problems, it is not through ignorance that we can solve them.

- Isaac Asimov

In February 2008, I attended the *Summit for Triple Helix Innovation* in Hawaii, a discussion among academics, scientists and government officials aimed at improving collaboration between these sectors in the name of fostering inter-disciplinary innovation. I did a talk on collaboration in virtual worlds that was very well-received, but what I was really struck by (aside from how amazing spiders are) were the considerations of 'the other five billion'; the vast majority of people on this planet who as yet have no access to the networked world so many of us take for granted. I view this time of transition as an opportunity to learn as much as possible about what is good about extant digital spaces, and to use those data to engineer spaces that foster even broader cooperation amongst previously disconnected individuals. When I read through the reams of data I have collected throughout this study, the thing that strikes me most is the collective passion with which everyone expresses their feelings about these new interactive media and the impacts on individual lives. Games, in particular, have piqued our interest, for they represent entirely new modes of interaction that service some very basic needs. What we have not perhaps considered is how we can invite the rest of the world's members to join these play spaces: certainly low-fi cell phone based games are a possibility in some developing areas, and combined with economic incentives, could be a mechanism for pulling some individuals out of poverty. What is clear to me is that there are myriad possibilities for building out global play spaces that encourage interaction, collaboration and co-creation, and yes, economic development.



I began this thesis with a quote about vision. Throughout history the best futurists have been those who have been able to marry a keen understanding of the present with a fascination for how our present might converge into future. Sometimes this forward-looking proclivity comes from an internal optimism whilst others fret about the future, especially regarding the 'perils' of technology. I fall into the former camp, obviously, because I think I am particularly well situated to weigh the beauty of these emerging communities against the more visibly negative minorities. Despite popular notions about digital games, in my mind they represent many things that are good about our changing world:

Games are a productive context for research not only in terms of what they reveal about cognition (such as problem solving and its meaning) and the characteristics and features of successful and sustainable online communities, but also in terms of what they can tell us (as both culture and cultural artifact) about life in a world that is increasingly globalized and networked (Steinkuehler, 2005b, p. 8)

Media scholars frequently worry about the power of media and its perpetrators to affect the docile and disenfranchised. What I have tried to demonstrate in this thesis, however, is that recent movements in media demonstrate a desire to be involved, and reflect a power that has toppled many a media hegemony even in recent months, just in the past two years (a number of traditional media and economic vehicles are also disappearing, denoting a period of transition<sup>44</sup>). But beyond that, they demonstrate what can happen to people and their expectations of how their involvement might play out in worlds both virtual and physical. As I write this conclusion in the early 2009, the United States have just experienced a presidential race of historic proportions whose success many pundits attribute to the Internet and increasing connectedness between previously disenfranchised individuals<sup>45</sup>. Similarly, many young people in the 1980s and 1990s were

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<sup>44</sup> [http://news.yahoo.com/s/ap/20090227/ap\\_on\\_bi\\_ge/rocky\\_mountain\\_news\\_closes](http://news.yahoo.com/s/ap/20090227/ap_on_bi_ge/rocky_mountain_news_closes)

<sup>45</sup> <http://www.nytimes.com/2008/07/07/technology/07hughes.html>

enormously disaffected by politics and apathy among Gen X and Y had been pervasive. Yet something is clearly happening. A relatively inexperienced black U.S. senator hired a former *Facebook* employee and made tens of million dollars online via \$15 donations given by individuals who had previously eschewed political participation <sup>46</sup>. Strangely this all came as a surprise to older generations, and observers world-wide, though the youthful tsunami that fueled President Obama's campaign worked quietly and tirelessly till November 4<sup>th</sup>, 2008 when Obama's landslide victory thrilled a nation that had lost hope and a sense of possibility. The country was shocked. As recently as 2004, groups like the Center for Social Media bemoaned the disconnection of youth from the public domain, calling it a 'participation gap':

Over a 25-year span, the national rate of voter participation experienced a 9 percent drop among all age groups, but double that - an 18 percent decrease. for voters ages 18-24 (Montgomery, Gottlieb-Robles, & Larson, 2004, p. 7)

However, within this set of issues, they foresaw a potential solution: that the Internet might play a huge role in encouraging young people to be more engaged civically. And that's exactly what happened during this election, and continues to be leveraged in Obama's subsequent service campaign. The opportunity was ripe. What they may not have expected is that participation, while measured in terms of specific political activity, is often prepared for via participation in other, less serious activities. Yes, even the much vilified gaming. Each small effort to participate, when reinforced with an appropriate response, encourages the participant to engage further, and more deeply. Even something as seemingly frivolous as organizing a naked race in a virtual world can serve to impart an important visceral message that one has the power to create change, that one's personal agency is incontrovertible. Sending in a news story to CNN via email and seeing it broadcasted with credit given to the citizen iReporter <sup>47</sup> with their cell phone camera is a powerful mechanism that

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<sup>46</sup> <http://www.theatlantic.com/doc/200806/obama-finance>

<sup>47</sup> <http://www.ireport.com/>

puts power back in the hands of the media consumer, now media producer as well. Developing this sense of agency in the world goes a long way towards combating the apathy that had become all too pervasive.

In the coming months and years I would like to continue to develop a model around productive play, perhaps by mapping a segmentation onto those proclivities that will help to predict how players are likely to engage, and to what degree they are aware of subtle achievements, learning and transformations that might be gained.

Increasing self-awareness through reflection (Boud 1985; Marsick 1992)

accompanying play might be an important part of the equation moving forward.

Certainly promoting teacher and parental awareness is critical, so some of this reflection (how do you *feel* about mowing down those pedestrians in *Grand Theft Auto*, Johnny?) should occur naturally. I am completely convinced that the opportunities to marry digital play spaces with existing knowledge bases is huge and will represent a profound shift in the way we learn and internalize that learning. Cognition is not data in/data out, but rather a holistic set of processes that play experiences are particularly well suited to (Hawkins 2004, 2005, Pinker 2005 a, 2005b, et al).

Beyond thinking about games for learning and personal and collective transformation, I am interested in how play, game cultures, and indeed the mechanics of gaming have changed the way we approach the world. If we were to extend the culture of an average server on *City of Heroes* to the physical world, would it represent a microcosm of some larger, perhaps prescribed, reality, or something different entirely? Could it be considered a blueprint for a beneficial and collaborative society? Recent research into the role of play in our lives suggests that play might be less of a literal preparation for life, and more of a mechanism for the development of overall brain flexibility, as well as more holistic capabilities (Henig, 2008). As Pat Kane suggests (2005), a more playful society could well be the key to solving many of the world's problems. It seems slightly ridiculous, for instance, that we even fight physical wars anymore, when there are mechanisms to challenge one another without hurting real people (penalties could be economic?).

Like Plato and Dewey, my concern with learning is that it is the way in which we evolve as individuals, and how this evolution can potentially lead to improvements in our human ecosystem, including our various institutions like work and school. As George Siemens comments (2004), considering a better model for school, for instance, might benefit from studies such as this, where we can look at how people from youth to the elderly learn in digital spaces. We know that survival in our crowded, inter-dependent world is based on our ability to adapt to our socio-cultural contexts: to collaborate, cooperate, reduce waste, find efficiency, and generally work together more effectively. As economist Edward Castronova says in the conclusion to his book, *Exodus to the Virtual World*, our forays into digital spaces may well represent a model for a new society based on such values:

The coming exodus into virtual worlds will force us to change. The society that emerges in the real world will have to become more fun than the society we have now. Because games and virtual worlds have learned how to help people learn and work and socialize while having fun, the new society will probably be better educated, more productive, and more civically engaged. I hope we will parent as well or better. Our task is to prepare for the revolution by further developing the new science of fun policy, seeing what we can accomplish with the tools that virtual world designers have created. Doing so, we will improve our understanding of the world to come. More important, though, we may well discover some new, exciting, and beneficial things about how our society works, and how it can make every one of us happier (Castronova, 2007, p. 208)

As outlined in Chapter 4, this study centered around a handful of core research questions. I believe these questions have been more than adequately addressed, and there is also a significant body of data that allows them to be explored even more thoroughly in the future:

How players self-organise into temporary and more permanent groupings and assist each other in learning the intricacies of a world.

- These practices were documented, players articulated the nuances of the experiences, and subtleties around etiquette, communication and meaning-making were explored. The findings corresponded to expected theoretical foundations, as outlined in Chapters 1-3.

How players contribute to the world and meta-world environment, and how developers/publishers respond to these contributions.

- The meta-game, in addition to the game world itself, were explored and documented, from the perspectives of players, developers and fan producers

How socio-cultural literacy develops in the context of a world, and how the worlds develop and regulate unique cultures and values.

- Myriad examples of the foundational game and cultural elements were provided and tied into broader theoretical memes as much as possible

What a successful group looks like in terms of etiquette, roles and social norms.

- Player expectations around these constructs were explored

How skills developed in virtual worlds might be leveraged into real-life contexts.

- Examples of both how this has been achieved and how it might be achieved were provided

What implications virtual worlds suggest for learning programmes in business and educational settings.

- Some possible ideas and examples were provided

What, if any, are the possibilities for transfer, transformation and indeed, greater social good?

- Only the tip of the iceberg 'was explored, but some examples of 'transformational learning' and 'sanctuary' were covered, and future directions anticipated.

It is my sincere hope and belief that with guidance and reflection from parents, teachers, and yes, our digital communities at large, positive experiences in virtual environments will find ongoing transference to our physical environments, that we will learn to harness the best of all worlds into one reality that encompasses both physical and virtual dimensions. It is also imperative that media literacies (Buckingham and Sefton-Green 1997) across analogue and digital spaces be part of any educational curriculum. My vision for the future includes a time when we will no longer debate whether a relationship that takes place in a virtual reality is real or not. I imagine a day when we will not scapegoat digital games as the source of societal ills, but will instead consistently look to thornier issues of poverty, education and nutrition for clues into what troubles our youth (Williams 2004), and then look further to try to understand the nature of the satisfactions and possibilities (Aarseth 2003, Salen and Zimmerman 2004) they are finding in digital spaces. For one thing, these technologies and the spaces surrounding them afford amazing new opportunities for transformational learning, a possibility that has yet to be explored to any significant degree. I look forward to the day when we can anticipate a bright future in which everyone can realize their potential, in which everyone is given many opportunities to try on a range of identities and roles until they find the one that suits them best. I would love for game developers to be inspired to make some amazing games (McGonigal et al, 2008), especially ones that can dovetail effectively with state and national curricula, and that leverage what games do best: create sandbox environments that allow learners to *experience* and therefore learn deeply, not simply memorise facts out of context. But most of all I look forward to a world in which we really can depend again on our communities to help us learn, support us in times of need, and fuel us through collective endeavours that help us understand what it means to contribute and belong, and I do believe that digital games are a way in which many kids, geeks and non-geeks alike, are developing these capabilities. One of the primary motivators in life is being needed. Yet I would argue that it is the thing that has been missing these last few decades as the distance between people, their families and communities has widened, and the reason I believe people have gravitated towards the Internet with such fervor as a result of

losing other mechanisms for community and participation (Putnam 1995; Steinkuehler and Williams 2006). However, I would argue these places are more than just the third places of yore: they represent a way in which we can reconnect with our collective spirit, the absence of which leaves us bored, depressed and feeling hopeless. Perhaps as Barack Obama says, it is audacious to hope, but without a sense of optimism about our future, without the ability to believe that the bad might outweigh the good, then what is the way forward? We can vilify games, or ignore them, but what we need is more studies that define what works and doesn't in digital game environments, and applies those findings to tough educational and social issues.

I hope this thesis is a start for other researchers passionate about these possibilities. In digital spaces like Terra Nova (<http://terranova.blogs.com>), the conversation continues...

I posit that at the core there is no real boundary between the virtual and the real phenomenologies. Both are publicly accessible and both contain real social interactions, and real values, both create group histories, group/collective memories and so on and so forth. Both allow group creation of products, values etc... Both allow the corruption of everything that can be created both within and out of the virtual. So your statement paraded as a question (rhetorical?): 'are we that opaque mass that happily accepts meaningless substitutes for meaning' There is as much 'meaning' in the virtual as in the 'real'. Note that the distinction real and virtual is purely technological: i.e. what sustains the phenomena. Whichever way you look at it, even if reality is deconstructed, as has been done not only by the recent post modern left bank western philosophers, and by a whole series of really ancient Asian philosophies e.g. advaita vedantism, buddhism, non-dualism etc... reality and virtuality are indeed on the same plane...no difference, both functionally and epistemologically. I have always been very surprised at the endless posts about 'hey what are you doing in the virtual

world? Get a real life' I am still thinking why some people find 'reality' more meaningful than 'virtuality' (Ramesh Raloll <sup>48</sup>)

Even more importantly, the future is bright as our physical and virtual worlds become more and more connected, with more and more participants, and a deeper, native understanding of what these worlds are about, and the opportunities they afford. I do think it is mandatory that parents and educators and pundits invest a bit of time in actually experiencing the environments I've described in this document. What they will find is a frontier ripe with possibility, full of players whose emotional investments in these spaces are surprisingly profound. We can't underestimate the power of these experiences; further research clearly needs to be done, but I hope this thesis is a useful snapshot of a culture in time, and might provide inspiration to other scholars interested in these arenas.

Learning theories are concerned with the actual process of learning, not with the value of what is being learned. In a networked world, the very manner of information that we acquire is worth exploring. The need to evaluate the worthiness of learning something is a meta-skill that is applied before learning itself begins. When knowledge is subject to paucity, the process of assessing worthiness is assumed to be intrinsic to learning. When knowledge is abundant, the rapid evaluation of knowledge is important. Additional concerns arise from the rapid increase in information. In today's environment, action is often needed without personal learning – that is, we need to act by drawing information outside of our primary knowledge. The ability to synthesize and recognize connections and patterns is a valuable skill (Siemens 2006).

What stories do you have to tell? How can you help connect the dots to other formal efforts to produce happy, well-adjusted citizens? There is much work to be done with these gifts we have cleverly unearthed, these incredible technological tools we have that can create better, brighter worlds based on values encompassing

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<sup>48</sup> [http://terranova.blogs.com/terra\\_nova/2007/03/libert\\_galit\\_fr.html](http://terranova.blogs.com/terra_nova/2007/03/libert_galit_fr.html)



collaboration, cooperation, humor, tolerance, and yes, love. Our talents are profound; it is only faith and vision that we lack. Let's do what we can to believe.

Having begun with a quote, I will also end with a couple. Thank you for reading.

"Play is the only way the highest intelligence of humankind can unfold."

- Joseph Chilton

"Play fair. Don't hit people. Say you're sorry when you hurt somebody."

- Robert Fulghum

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## APPENDICES

### APPENDIX A: Glossary

#### **Alt**

Short for 'alternate', referring to additional characters a player might use beyond their 'main' one

#### **CoX**

Refers to both 'City of' games: *City of Heroes* and *City of Villains*.

#### **Character**

Massively multiplayer games typically rely on role-playing conventions that include a player building and 'leveling' characters. The character's class refers to the type of skills the character has, in *City of Heroes* and *City of Villains*, this is referred to as the 'archetype'. Also referred to as 'toons'.

#### **Massively Multiplayer Online (MMO)**

A catch-all term for virtual worlds. It typically includes both massively multiplayer games and social worlds.

#### **Massively Multiplayer Online Game (MMOG)**

A sub-category of MMO that is specifically focused on worlds that have gaming components.

#### **Massively Multiplayer Online Role-playing Game (MMORPG)**

Another category of MMO involving a game with role-playing elements.

#### **Missions (mishes)**



Activities in *City of Heroes* and *City of Villains* that allow players to gain experience points and items. Missions can be played alone or in a team.

### **Non-player Characters (NPCs)**

Refers to artificially intelligent characters within the play space that may compete against players, serve various environmental functions, buy/sell items, or cooperate with players in other ways.

### **Player-killing (PK)**

Refers to the ability to defeat other players, as in Player vs. Player environments (PvP)

### **Player vs. Player (PvP)**

Refers to environments or activities in which players can compete directly with one another.

### **Player vs. Environment (PvE)**

The de-facto play state for most MMOs. Players cooperate with each other against non-player characters (NPCs), but do not directly compete against one another.

### **Super group**

Most massively multiplayer games include some ability to join other players in longer term collaborations referred to as guilds, clans or teams. In keeping with the superhero theme of the game, *City of Villains* uses the term 'super group'. Players often to refer to such groups in *City of Villains* as 'villain groups'.

### **Virtual World (VW)**

Coined by Richard Bartle, this is the broadest term used to describe to persistent online environments. Professor Edward Castronova has suggested the alternative 'synthetic worlds', but virtual worlds or MMOs are typically used.

## **APPENDIX B: Interview Questions**

### **Player Initial Interviews**

- Questions for players (not all questions were asked of all players):

1. What game(s) do you play?
2. How long have you been playing?
3. Whom do you play with? Do you usually solo or group?
4. How frequently do you play? For how long? Where?
5. How did you learn to play?
6. Are you in a guild/clan? (describe)
7. What skills, if any, have you developed as a result of playing online games?
8. What skills, if any, have your friends developed?
9. What are the most important attributes for success in the game?
10. Has your real life changed because of the game?
11. Do you share knowledge with others? (run websites, etc.)
12. What do you think is appealing about online games?

13. What surprises you most about MMOs? Can you relate any interesting anecdotes?

#### Developer Questions

1. What is your motivation for creating MMOs?
2. What is the process for designing community features?
3. What kind of player research do you do?
4. Explain your game's approach to grouping vs. Soloing
5. Explain your company's relationship with your players
6. What has surprised you most about your player community?
7. Do you deliberately design sociability into the game, or is that allowed to emerge spontaneously?
8. Do you ever think about the larger context of MMOs in players' lives?
9. What do players contribute to the game environment?
10. What skills, if any, do players learn?
11. Can you think of any examples when players' lives have been changed as a result of playing the game?
12. What do you love about players?

13. What, if anything, bothers you about them?
14. What do you think makes MMOs appealing?
15. How will they change in the future? Stay the same?

#### Follow-up Interview Questions

- In the survey you indicate that you often help lower level players. Can you explain why you do this?
- In the survey you indicate that you have run a super group in the past. Can you describe this experience? What skills, if any, do you feel you might have developed?
- In the survey you indicated that you prefer solo play. Can you explain why you choose to play a multiplayer game?
- Can you explain what you find appealing about the game?
- Can you describe a recent experience in the game that left you feeling satisfied or happy?
- Can you describe a recent experience in the game that left you feeling angry or frustrated?
- Can you comment on how skills you have learned in the game have affected your real life?

