

## **Playing with Pixels: Youth, Identity, and Virtual Play Spaces**

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### **Introduction**

Today's youth culture is dominated by technology and media use. The Kaiser Family Foundation reported that since 2005, American youth between the ages of 8 – 18 years have increased their total media consumption time by an hour and 17 minutes daily, now totalling seven hours and 38 minutes per day (Rideout et al., 2010). Given the common practice of media multitasking, it is suggested that youth's media exposure is more accurately totaled at almost 11 hours daily. Of this time, an hour and a half is spent on the computer completing non-academic tasks, with 64 percent of 8 – 18 year-olds using a computer for entertainment purposes in 2010 versus 47 percent of youth in 1999 (Rideout et al., 2010). It is possible that this increase in computer use is related to the simultaneous increase in at-home, high-speed, Internet access. In fact, 93% of today's teens are online, 63 percent of whom are online on a daily basis (Pew Research Center's Internet and American Life Project, 2010). As such, the Internet has become the 21<sup>st</sup> century's popular platform for the technologization of Vygotsky's theory of cultural tool use (Vygotsky and Luria, 1993). Cultural tools such as language, counting systems, fashion, and teaching systems are now being negotiated in virtual terms and shared within the global village of humanistic technologies (Etengoff, In Press).

In this paper, I discuss the significance of online virtual play spaces designed by adolescents for adolescents in terms of youth's processes of identity development, social interactions, physical well-being, and cognitive development. By using Teen Second Life as a case study, I explain how the processes of virtual world play and alter ego construction are implicated in youth's physical world identities, interactions, and resultant development. I also argue that the study of the impact of virtual play spaces requires a new understanding of the applicability of Cultural Historical-Activity Theory (Vygotsky, 1934 and 1978) within the age of technology. After a brief review of Cultural Historical-Activity Theory (Vygotsky, 1934 and

1978), I offer examples to show how co-constructed virtual play spaces allow adolescents to organically engage in symbolic activities such as storytelling, drawing/graphic design, and role-playing. Within the framework of Cultural Historical-Activity Theory (Vygotsky, 1934/1978), such symbolic activities are important as they can 'transform ways of being in society' and the virtual world of adolescents thereby takes on physical world relevance (Daiute, 2006: 207).

### **Cultural Historical Activity Theory**

Cultural Historical Activity Theory (Vygotsky, 1934 and 1978) provides a lens for studying the development of individuals in society by focusing upon social-relational dynamics as well as individual subjectivities and capacities as the context of human development and behavior (Daiute, 2006). Within this framework, human development is viewed as an activity that influences, and is influenced by, cultural tools and artifacts (for example, the internet, Teen Second Life), cultural and individual history (for example, sexual and religious identity development within a socio-historical context), and multiple activity systems (for example, familial and social). This theory additionally highlights the idea that the process of individual development is inseparable from the cultural tools and systems that construct society. In light of this perspective, the study of contemporary youth development should focus on the digitized cultural tools that have come to influence both social-relational dynamics and individual subjectivities. Therefore, this paper will focus upon the impact that virtual play spaces designed by youth for youth have on the development of today's adolescents.

### **Teen Second Life: A Case Study of Co-Constructed Virtual Play Spaces**

Some of the fastest growing segments of the online gaming industry are massively-multiplayer online role-playing games (MMORPGs) and multi-user virtual environments (MUVES), such as Teen Second Life (Steinkuehler and Williams, 2006). Indeed, it has been projected that by the end of 2011, 80 percent of Internet users will have some form of an online 'second life' (Gartner, 2008).

Teen Second Life, established in 2005, is unique in that the co-creators of this virtual environment for youth are the adolescent players themselves. Teen Second Life is a parallel universe comprised of real-time, global interactions occurring within a '3D online persistent

space totally created and evolved by its users' (Yee, 2007: 1). Unlike traditional videogames and MMORPGs, Teen Second Life is not limiting its 13 – 17 year-old players to pre-structured forms of interactivity within a predetermined environment, social context, and game script (Jenkins, 1998). Teen Second Life users are the dominant architects and collaborative programmers of the lasting virtual structures, industries, museums, NASA sponsored rockets and launch pads, night clubs, cities, and community centres that they can simultaneously navigate and interact with at any time. Furthermore, Teen Second Life does not have points, scores, winners, losers, levels, and is not dominated by, or limited to, combat or violent interactions as are most MMORPGs. Teen Second Life is a uniquely structured MUVE in that users can choose to create and explore a wide range of social, cultural, political, educational, and economic symbolic activities for personal enjoyment or financial benefit (SpaceToday.org, 2008; Boellstorff, 2008). Within this constructivist framework, the Teen Second Life user's creative agency is embraced, thereby creating a space in which true play can unfold (Bruner, 1983). In this way, the open-ended programming potential of Teen Second Life answers the frequent criticism that online play spaces are 'over mediated virtual playgrounds' that lack the creative flexibility of simple physical objects such as a piece of chalk or a cardboard box (Pearce, 2006: 18).

Although the young players are the primary architects of Teen Second Life, it is important to note that the Teen Second Life Community Standards Board does limit and regulate players' created space by restricting violent and sexual content within Teen Second Life. In addition, the young players' virtual world is additionally modified by the adult educators, non-governmental institutions, and nonprofits that are given access to create and navigate spaces within Teen Second Life. Therefore, although Teen Second Life is unique in offering youth the opportunity to co-construct their play spaces, Teen Second Life does echo physical world architects' efforts to balance recreation and safety within shared play spaces. I would therefore argue that Teen Second Life is a cultural tool that singularly incorporates both the creative and unstructured benefits of offline wild, natural spaces as well as a modified form of the traditional safety features of city parks and recreation programs.

### **Creating the Virtual Self**

In addition to having the opportunity to construct their virtual play spaces, Teen Second Life users can design their virtual alter ego, commonly referred to as the avatar. The avatar body can be customized in a practically infinite number of phenotypic permutations ranging from height, weight, frame and figure, skin color, eye color, facial structure, gender, to fantasy animal avatar (Image 1: Avatar Skins in Second Life). Moreover, users often design or purchase unique clothing for their avatar that allows for the further individuation of their online persona (Etengoff, In Press).

Through the symbolic activities of graphic design and role-play, a Teen Second Life user can create an avatar that is seemingly identical to their physical world persona or one that represents a radically different or impossible alter ego. A clear illustration of the range of creative possibilities is provided by IslamOnline.net and Second Life's first Arab and Muslim virtual fashion show held on 21 September 2008. For example, the Second Life and IslamOnline.net fashion designers unconventionally modified the traditional women's chador to appear translucent, thereby revealing the female avatars' shapely legs beneath (Etengoff, In Press). Although garment, event, and religious identity were possibilities in Second Life, all would most probably have been strongly regarded as religiously taboo and boycotted by many traditional Muslims in the physical world. Such events clearly illustrate the mediational role of Second Life in the process of constructing an alternative socio-religious identity and community.

### **Identity Exploration and Social Interactions in Teen Second Life**

Teen Second Life users are able to use the virtual environment as a tool to facilitate a unique



process of identity exploration and construction. Identity exploration within virtual space is particularly attractive as it is an anonymous process with limited physical world consequences and constraints (Suler, 2004). Indeed, the broad range of possible avatar designs and personas begs the question as to whether it

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Image 1: Avatar Skins in Second Life, © Max Burns  
[http://www.pixelsandpolicy.com/pixels\\_and\\_policy/2009/10/race-case.html](http://www.pixelsandpolicy.com/pixels_and_policy/2009/10/race-case.html)

the virtual or physical world persona of youth that is their true self. In fact, the term avatar is derived from the worldly incarnation of the Hindu God Vishnu (Hemp, 2006); hinting at the question as to whether the physical construction of the self is only a modified incarnation of youth's authentic virtual identity (Etengoff, In Press).

While Internet users of all ages can engage in this process of identity exploration and experimentation via a variety of MUVE and MMORPG options, this process may be uniquely beneficial for the Teen Second Life users as a primary task of adolescence is the achievement of a distinct and unitary sense of self via identity experimentation (Erikson, 1963; Strasburg et al., 2009; Subrahmanyam et al. 2001; Valkenburg and Peter, 2008). Moreover, developmental psychologists have suggested that adolescence is a period in which multiple identities and selves naturally emerge due to increased participation in a variety of socio-relational contexts (see, for example, Harter, 1999). In addition, within the framework of Cultural Historical Activity Theory, the construction the self of is operationalized as an agentive activity-based process that is subject to change in association with the demands of varying socio-relational contexts. This is of particular importance to Teen Second Life participants as the virtual environment offers an endless range of socio-relational contexts to explore.

In addition, it has been hypothesized that because adolescents have a greater control over their media choices than other socializing agents, their chosen media mediums can become particularly powerful tools in their process of identity construction (Arnett, 1995). As such, online virtual play spaces can serve as both a forum to confront new identity possibilities as well as an opportunity to become comfortable with various aspects of one's chosen and actual offline identity. In light of this, educators have taken advantage of the unique properties of Teen Second Life to promote this process of identity construction and successfully encourage the development of a positive body image in adolescents via a series of workshops in which the adolescents created and discussed both their fantasy and actual body types via their avatar design (for example, Boss, 2009).

An additional benefit of Teen Second Life is that online players do not have to worry about their peers' potentially derogatory facial expressions and sound effects that can often

inhibit self-disclosure within physical world social settings such as lunchrooms and schoolyards (Suler, 2004). Although the avatar can communicate via both typing and audio speech systems, the accompanying image is always the avatar and never a photographic image of the avatar's creator. As a result, online virtual spaces have become a therapeutic and social forum in which persons with unique physical and psychological circumstances can navigate and communicate relatively safely, freely, and without the fear of public disability stigmatization within their daily physical contexts (for example, Gillen, 2009; Terdiman, 2005).

In addition, psychoanalysts have hypothesized that virtual environment players feel free to self-disclose and act more intensely in part due to the dissociation between the avatar and their creator, as online activities never need to be acknowledged or claimed within physical world contexts (Suler, 2004). In light of this, some psychodynamic scholars view the avatar as a medium for "working through" fantasies via the transference of behavior to a virtual alter ego (Suler, 2002, 2004; Velleman, 2008). Alternatively, humanistic theorists conceptualize this process as one of 'self-actualization' (Suler, 2004), or as a process that encourages both self-reflection and cultural analysis (Jenkins, 2008), as well as an understanding of the organic characteristics of post-modern identities (Turkle, 1995).

Furthermore, psychologists studying the social interactions of MMORPGs have found that some players reported feeling 'more themselves' during virtual play as they were not judged by their appearance, gender, age, or other personal information (Cole and Griffiths, 2007). In addition, social and educational scholars have found that young women are able to explore different femininities and gender identities within MMORPGs than they would be able to comfortably experiment with in their offline worlds (for example, Kelly et al., 2006; Valkenburg et al., 2005). Similar results concerning identity exploration have been found for MUVes. For example, the psychologist, Cabiria (2008) found that after adult lesbian and gay Second Life users engaged in online virtual world activities they reported an increased sense of belongingness, connectedness, improved well being, higher self-esteem, and optimism. Cabiria (2008) hypothesized that these positive outcomes resulted from an increased sense of authenticity related to the lived virtual experience. That is to say, the authentic self was able to safely emerge within the virtual space. Thus, the real world anonymity of the virtual self positions the avatar as the most obvious 'online manifestation of people's desire to try out

alternative identities' (Hemp, 2006: 50), a developmental process that is particularly relevant to adolescents.

### **Potential Educational and Literacy Benefits Of Teen Second Life**

In addition to facilitating the process of identity development, the co-constructed narrative and storytelling activities of Teen Second Life can be viewed as 'an activity that integrates the values and material circumstances in social history and individual lives' (Daiute, 2006: 209), thereby representing the practical application of Cultural Historical-Activity Theory. Through the process of creating virtual world narratives and fictional storylines within Teen Second Life, youth are able to creatively engage issues of 'institutional values, power relations, circumstances of the physical environment, and individual motivations' (Harre and Langehove, 1999 as cited by Daiute, 2006: 209).

For example, the United States Holocaust Museum and the nonprofit urban education organisation, Global Kids, worked together to create the Witnessing History: Night of Broken Glass interactive Teen Second Life exhibit. In this initiative, urban youth from Washington, D.C. and New York City researched the museum's archives and collaboratively created a virtual space reminiscent of the Night of Broken Glass. Visiting avatars were confronted with the aftermath of destroyed homes, shops, and synagogues and navigated the devastation as an investigative reporter attempting to discover what the virtual citizens of Germany did and did not do on this fateful night (Montandon, 2009). In this way, storytelling within virtual environments is both an interpretive and transformational process. Although a retelling of a story cannot alter events, it can transform the associated meaning of those events and possibly modify the course of future social-relations (Daiute, 2006).

Linguists, psychologists, and anthropologists have additionally suggested that Teen Second Life and other online virtual environments offer players an opportunity to engage in diverse alternative systems of collaborative meaning-making that are valued within the notions of new literacies and multiliteracies, such as image, sound, colour, space, avatar, video, movement, and the interaction between these multimodal resources (for example, Gillen, 2009; Black and Steinkuehler, 2009). By providing an open-access forum for improving computer literacy and technology skills, Teen Second Life additionally offers the possibility of

being a promising tool in the effort to reduce the persisting gender gap in the fields of science and technology (Franklin, 2007; Johnson, 2008; Kelly et al., 2006).

Yet, despite the possible benefits of Teen Second Life encouraging media literacy amongst youth, many educators worry that media literacies are the death of 'true' literacy. However, it has been argued by others that media and computer literacy just represent one more change in the long history of literary shifts, such as Hemingway's telegraphic-like text (Jenkins, 2008). Moreover, traditional forms of literacy activities often accompany engagement in virtual environments via the mediums of virtual environment manuals, fan blogs, and other online discussion forums. As the education and literary scholars, Black and Steinkuehler (2009:238), suggest, 'gaming at least in the context of MMOs [massively multiplayer online games], is not replacing literacy activities, but rather is a literacy activity'.

Furthermore, it has been suggested that online virtual spaces like Teen Second Life can also be used as an interdisciplinary educational tool. For example, the inclusion of virtual architecture and topography tasks offers youth a forum in which to explore principles of urban planning and develop an understanding of the relationship between mass transit and population density (Jenkins, 2008). In addition to the informal educational aspects of Teen Second Life, the MUVE also enables users to visit a number of interactive educational islands that fulfill state educational requirements. It should be noted that such programmes have been developed in light of research that indicates that the process of conducting data analysis and hypothesis testing within the context of narratively organised science simulation games in coordination with physical learning experiences successfully enables users to actively produce and construct knowledge regarding physical world phenomenon (for example, Brichfield and Megowan-Romanowicz, 2009; Henderson et al, 2000; Kangassalo, 1994).

Another educational facet of Teen Second Life is that the entrepreneurial components of the virtual environment allow the young players to explore economic theory, real estate systems, and marketing principles within a relatively safe context in which limited capital is at risk of being lost. However, despite the educational potential of such entrepreneurial endeavors, one could critique Teen Second Life for encouraging youth to pursue capitalist and materialistic values at too young an age. Alternatively, the notable children's rights



scholar and activist, Richard Farson (1974), has proposed that children's rights can only be realised when youth achieve financial independence and it may be argued that Teen Second Life could facilitate this form of emancipation.

In addition to the above mentioned educational opportunities of virtual environments, a variety of video games and virtual environments have been shown to enhance children's spatial skills, two-dimensional representations of hypothetical space, iconic skills (the ability to read images such as pictures and diagrams), divided visual attention (the skill of keeping track of multiple images simultaneously), as well as mental rotation skills (Greenfield et al., 1994, McClurg and Chaille, 1987; Subrahmanyam et al., 2001). While these skill sets may not be helpful in some areas of children's school performance, it has been argued that these skills can help prepare young people for future careers in science and various forms of technology and will possibly enhance children's performance on the Wechsler and Stanford-Binet IQ tests (Subrahmanyam et al., 2001). Although most of the above research concerning spatial intelligence has not particularly focused on Teen Second Life, it is likely that Teen Second Life offers many of the same spatial enhancement features as those that are outlined in the literature concerning other virtual environments.

### **The Vulnerable Virtual Player**

Although there are many benefits of a virtual play space designed by adolescents for adolescents, a number of concerns have also been raised by scholars from a variety of disciplines. It is important to acknowledge the potentially negative implications that the popularization of virtual environments may have on youth's development because it is only with caution that these risks can be averted. In this regard, Teen Second Life is no different from most cultural tools. Within the perspective of Cultural Historical-Activity Theory (Vygotsky, 1934 and 1978), it is the specific type of use and form of tool modification that constructs the social meaning and contextual relevance of the tool (Cole, 1996). That is to say, the specific benefits and consequences of cultural tools such as Teen Second Life are dependent upon youth's decisions regarding its method of use.

For example, although Teen Second Life has provided a safe space for youth who encounter communication difficulties in the real world due to a variety of physical and

psychological concerns, researchers have also found that some physical world inequalities continue to persist within the virtual world (for example, Eastwick and Gardner, 2009). In fact, social psychologists have found there to be a statistically significant disparity between the help offered to avatars with lighter skins versus those with darker skins (Eastwick and Gardner, 2009). In addition, the noted Second Life journalist, W. James Au (2008), reported that as a result of security flaws in the programming design of Camp Darfur, the Second Life Island designed to promote tolerance and genocide awareness, the camp was ransacked and destroyed by a racist avatar. Although these acts are disturbing, I do not believe that they should be surprising, as similar to the physical world, the virtual world is not inhabited by utopists alone. Yet, unlike the physical world, the virtual world can provide a forum in which people can be sensitized to the harmful effects of racism. Furthermore, they can internalize this racism they experience by simply changing their skin tone, identity, and their social reality with a click of a button (note Image 1: Avatar Skins in Second Life).

In addition to the above concerns regarding the social relations embedded in virtual environments, psychologists across the sub-disciplines frequently focus upon the psychological health of the individual player. For example, many clinical psychologists discuss the fear that adolescents with low self-confidence and limited social skills may be particularly vulnerable to the danger of substituting their virtual life and identity for physical world social interactions (see, for example, Young, 1998 and 2009). Furthermore, developmental psychologists have suggested that younger children may have difficulty distinguishing between what is real and what is simulated (see, for example, Subrahmanyam et al., 2001), a distinction that is essential to remain within the safe boundary of play spaces (Skynner and Cleese, 1983). Alternatively, social psychologists have expressed the concern that younger MMORPG players have a greater tendency to form an attachment with their avatar (see, for example, Smahel et al. 2008), to sacrifice their education or work (Griffiths et al., 2004), and to spend longer periods of time playing MMORPGs than their adult counterparts (Griffiths et al., 2004). In light of this, some social psychologists are concerned that younger MMORPG players are more likely to suffer the consequences of gaming addiction and intensive gaming habits (Smahel et al. 2008). However, it should be noted that research focusing on MMORPGs exclusively may have limited relevance to Second Life as the MUVE is not a

competitively structured fantasy environment with scripts and rewards as are most MMORPGs.

In addition to the issue of gaming addictions, psychologists and a growing number of medical professionals are concerned by the negative correlation between the amount of hours youth spend playing online and offline video games and the rising rates of pediatric obesity (i.e., Strasburger, 2009; Vandewater et al., 2004). Although most sedentary activities have been correlated with an increased body mass index (BMI), excessive video game use has been shown to increase BMI in boys under the age of eight more so than television use (Vandewater et al., 2004). It is possible that this unique relationship between video game play and weight gain is related to the argument that electronic forms of play have specifically come to replace more physically rigorous play activities that had previously been pursued in the outdoor contexts of wild spaces (e.g., Tandy, 1999). However, media scholar, Henry Jenkins (1998) is quick to point out that contemporary urban youth may no longer have a choice between videogames and outside play due to high crime rates, crowding cities, and parental attempts to protect latchkey kids from neighborhood threats. In which case, virtual play spaces are offering a unique cultural tool for today's youth to engage in processes that may have previously been a part of the physical world. It may therefore, be more important for reformers and politicians to focus on reclaiming physical play spaces rather than condemning virtual play spaces as the independent adversaries of physical health (for example, American Academy of Pediatrics, Committee on Environmental Health, 2009).

An additional concern that educators, politicians, and psychologists have highlighted regarding Teen Second Life is the negative correlation between general media use and academic performance. For example, a recent study found that 47 percent of heavy media users ages 8 – 18 years reported earning a C grade or lower in comparison to only 23 percent of light media users of the same demographic group (Rideout et al., 2010). Moreover, this problematic relationship between academic performance and media use remained unchanged when factors such as age, gender, race, parent education, personal connectedness, and single versus two-parent households were controlled for. However, there was a positive correlation between the amount of print reading that youth engaged in and their academic performance. This relation suggests that the poor academic performance of

heavy media users may result from the limited amount of time media using youth spend reading traditional print texts as opposed to the virtual engagement itself. In other words, it is the culturally chosen context and mediational purpose of tools use and not the isolated object (tool) itself that constructs the tool's cultural meaning.

### **Constructive and Purposeful Play: An Oxymoron?**

There is a cartoon designed by BLaugh regarding Second Life that intriguingly touches upon some essential questions regarding the purpose or non-purpose of virtual worlds and tools. In this cartoon, a clearly annoyed mother turns to her technologically engaged son and says 'Second Life?!? Please...you don't even have a first life'. Although the offended and seemingly estranged adolescent son has no verbal response for his mother, perhaps we could construct a hypothetical counter-argument for him based on the information presented in this paper.

The first question embedded within his mother's chagrin is 'If Second Life is a virtual fantasy platform, can it also serve as a constructive and purposeful tool which impacts physical world skills, experiences, and identity construction'? Indeed, this question is not without merit, as throughout the course of this paper, dissenting opinions from a variety of disciplines have been presented regarding the possible beneficial and negative outcomes of Teen Second Life. In addition, the comparison of conflicting positions regarding virtual worlds is difficult as it is a subject of interdisciplinary interest and research methods and analysis will often vary by discipline. Although the question as to whether the total impact of Teen Second Life and other online virtual environments is positive or negative in summation remains to be debated, there are few scholars that postulate that there are absolutely no valuable elements to the virtual world. In which case, should the disgruntled son's response to his mother be, 'Second Life is not just a virtual playground...It is an educational test drive for first life'? I would argue that such a response is incorrect and incomplete as it continues to dichotomize and simplify the elements of play and productivity. In light of this, the essential question to be addressed is, 'If Second Life is a constructive and productive virtual space and cultural tool, is it no longer to be viewed as a play space'?

In a virtual world in which serious and painful questions of genocide are confronted within a fantasy set of 'The Night of Broken Glass' and players become academically focused anthropologists and scientists conducting experiments and excavations, can we still view these interactions as occurring within the dimensions of play? Although Erikson, Piaget, and Vygotsky presented different discussions concerning the act of play, they all agreed that an essential or inevitable component of play is that of fantasy. It is therefore, possible to conclude the discussion with the statement that virtual reality is inherently intertwined with fantasy and as such, is by definition a form of play. However, such a claim would overlook the additionally debated components of play such as the purpose/productivity, the rules/structure, and the enjoyment of play.

In Erikson's (1943), Piaget's (1945 and 1951), and Vygotsky's (1933 and 1967) view play is not without purpose. For example, Erikson (1943: 411) describes childhood play as retaining a 'self-teaching and self-healing' function. This theory of the psychoanalytic value of play is similar to Piaget's (1945 and 1951) discussion of symbolic play activities that allow us to assimilate painful experiences to the ego, Vygotsky's (1933 and 1967) application of the elements of wish-fulfillment within fantasy play, and Bruner's (1983) hypothesis that social components of play prepare children for the stressful social activities of the future. Furthermore, Piaget's (1945 and 1951) passing reference to scientific exploration being a form of serious play has been revived and expanded upon by Rieber (1996 and 1998) in his discussion of how interactive virtual learning environments and microworlds are similar to a child's sandbox in terms of fantasy, engagement, experimentation, and cognitive development.

In addition, more contemporary scholars (for example, Pearce, 2006) have argued for the existence of productive play, a form of play which is defined as people engaging in creative production for its own sake. In light of the above, the avatar that creates and explores a fantasy identity, abode, scientific experiment, or the reenactment of a historical event is not excluded from the world of play. While such activities within Second Life can be viewed as purposeful, purpose alone does not exclude virtual activities from the general category of play according to many developmental psychologists. In other words, a cultural tool can serve the multiple and diverse goals of play and productivity simultaneously.

An additional concern regarding the definition and parameters of play is that of the role of rules and structure. A primary question that has been presented is: does the individual need to retain total, partial, or any form of creative control of their experience and environment for the activity to be defined as play? While Bruner (1983) suggests that retaining creative control provides an opportunity for the player to engage in self-discovery, he does not expand upon the extent of creative control that is required. Alternatively, Vygotsky offers a complex discussion of the need for structure and rules during play. In Vygotsky's (1933 and 1967) perspective the child finds their greatest enjoyment in the adherence to the play structure and rules and not in the gratification of their immediate impulse. In addition, much of Piaget's (1932 and 1969) research concerning moral development involved his analysis of personal and collaborative rule construction while *playing* marbles. Within this framework, creating, negotiating, and adhering to rules and structure is an essential component of the play activity and as such one could argue that the semi-structured exploratory environments of a virtual science lab and Holocaust museum are no different than the beloved hop-sotch grid or the Harry Potter narrative that transforms chemistry experiments into potions class.

The final play debate that will be addressed is that of enjoyment. On the surface, it would appear that the distinguishing factor between work and play is that only the latter is enjoyed. However, are all forms of play in fact enjoyable? In an effort to answer this question, Vygotsky (1933 and 1967) offers a distinction between finding the play activity itself enjoyable and finding the results of the activity to be interesting and hence enjoyable. While one could argue that there is limited enjoyment found in exploring the virtual devastation of the 'Night of Broken Glass' project, it could also be argued that the exploration itself need not be lighthearted and enjoyable for the virtual fantasy interaction to be viewed as a form of play. Within the Vygotskian perspective, the key to enjoyment is interest, and while the experience of the virtual Holocaust Museum may be serious in nature this does not negate youths' potential interest. Thus, Teen Second Life is a cultural tool that can be used for the diverse purposes of both education and entertainment. In conclusion, perhaps the best abbreviated response that the son could give to his skeptical mother is 'Don't knock the virtual world... it's play with a purpose'!

### **Future Directions of Virtual Environments**

There have been many changes in virtual entertainment culture since the iconic eruption of Pac-Man in 1980. As technology continues to improve, virtual play spaces and tools will become more interactive and connected to physical world realities. For example, 3D real-time engineering analysis companies such as Motion Reality, have already created interfaces in which up to twelve players utilize physical objects and physical motions to compete in a three-dimensional virtual world (Etengoff, 2010). In addition, sensor gloves have added another level of reality to virtual experiences by allowing players to feel physical world sensations such as heat and pressure in conjunction with the associated virtual gaming narrative. Moreover, the virtual gaming company, Emotiv Systems, has developed a program that translates and transmits information regarding players' facial expressions, emotional states and cognitions into virtual gaming directives (Louie, 2008).

Thus, the next generation of online virtual environments may use similar technologies to enable a greater number of players to simultaneously interact within a realistic virtual world while encouraging physical activity. This increasingly intertwined relationship between virtual play and physical world activity, emotions, and cognitions will undoubtedly further blur the line between fantasy and reality. In addition, it is also possible that such immersive technologies may increasingly dissuade youth from exploring outdoor play spaces and their associated benefits. For example, while youth may have an opportunity to participate in building a global community across virtual space, the resultant lack of interaction with proximal and physical play spaces may prevent youth from engaging in the local community building processes that are associated with outdoor play in public spaces (Hart, 2005).

A further concern is that as industries continue to grow and urban spaces become more crowded, these virtual play spaces may be viewed by politicians as tempting alternatives to the costly preservation of public play spaces. However, although the next generation of virtual play involves physical activity and collaboration, it is doubtful that physical play spaces will cease to have additional physical, cognitive, emotional, and social benefits for youth. It is therefore clear that research efforts must continue to explore the ever

changing virtual play landscape and its effects upon the many facets of young peoples' development, urban planning, and the environment.

Moreover, while many of the skills and insights gained in the virtual world can be translated into physical world activities and processes of identity construction, the relation between the physical and virtual is inherently distant. The fantasy element of the virtual world simultaneously connects the player to both the limitations and possibilities of their physical and social world, and thus offers an avenue for escapism and experientialism. However, in contrast to the virtual world, physical play spaces are not paired with an equivalent "escape" button or a log-off option. The largely persistent and continuous nature of the ecological systems of youths' lives (for example, school, family, neighborhood) demand that youth become familiar with the concepts of sustaining relationships, the need for effective conflict resolution skills, personal accountability, as well as their role in creating and affecting change in their environment and community (personal communication with Roger Hart, 2010). Furthermore, the physical world provides youth with a great breadth of social activities to participate in (for example, sports activities and teams, after school clubs, musical groups and bands etc.) and recent research has indicated that youth that are involved in a variety of activity contexts are more likely to report positive academic, psychological, and behavioral outcomes (Fredricks and Eccles, 2006).

In conclusion, although there are a number of benefits specifically associated with MMORPG and MUVE engagement, it is important to note that engaging in a variety of activities within the physical world can offer youth additive benefits. Furthermore, within the framework of Cultural-Historical Activity Theory, the meaning of cultural tools is constructed in relation to the interacting activity systems in which they are situated (Roth and Lee, 2007). It may therefore be best to simultaneously study adolescents' play activities and associated development within both virtual and physical contexts rather than viewing each as independent of or in exclusion to the other.

## **Conclusion**

In this paper, I hope to have shown how participation in co-created virtual environments can be a pivotal developmental experience for youth today. I have argued that virtual



environments such as Teen Second Life are cultural tools that enable contemporary youth to mediate their processes of identity construction, social relations, and cognitive development through their co-engagement in symbolic activities such as storytelling and avatar design. In addition, I have discussed a wide range of scholars' concerns regarding vulnerable virtual players (for example, those with low self-esteem) as well as the larger social implications of virtual environments themselves. For these reasons, those who work with youth should focus upon inviting them to critically reflect upon their choices concerning their participation in and use of virtual environments.

## **Notes**

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