ADOLESCENT ENGLISH LANGUAGE LEARNERS' SECOND LANGUAGE LITERACY ENGAGEMENT IN *WORLD OF WARCRAFT* (*WOW*)

By

ZHUO LI

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2011

To my beloved family and friends

ACKNOWLEDGMENTS

I appreciate this precious opportunity to acknowledge and thank those who have helped me academically and personally along the way. Though I cannot enumerate all of them here, I am writing in hopes that they can begin to understand just how grateful I am for their incredible support and unforgettable help. Whenever I felt frustrated on this long and winding journey of doctoral studies, I found strength in my committee, my colleagues, my friends, and my family. Without them, this dissertation would not have been possible.

I owe my deepest gratitude to my committee: Dr. Maria Coady, Dr. Richard Ferdig, Dr. Zhihui Fang, Dr. Roger Thompson, and Dr. Linda Behar-Horenstein. First and foremost, I would like to thank my advisor, Dr. Coady. She has been such an understanding and supportive mentor ever since I started studying at the University of Florida (UF). Dr. Coady's guidance, encouragement, support, kindness, and patience enabled me to think and act as a researcher, though, a novice one. In the beginning stages of my dissertation, Dr. Coady helped me shape my research questions. Then, she revised my prospectus, and later, my dissertation drafts for three iterations. Long discussions with and valuable feedback from Dr. Coady assisted me in synthesizing my fragmented thoughts. I always felt her trust in me. Dr. Coady is a marvelous mentor, inspiring and encouraging me at all times, even opening many doors for my professional growth. Teaching an ESOL foundation course with Dr. Coady was one of the most rewarding experiences during my doctoral studies. Dr. Coady is my role model as an innovative educator, a

dedicated researcher, an intelligent scholar, and an inspiring and responsible mentor. I believe she is the one who will have far reaching influence over my whole life.

I would like to extend a hearty thank you to Dr. Ferdig. It was Dr. Ferdig's course, "Society, Technology, and Culture," that peaked my interest in the research topic on gaming. Without his encouragement, I would not be able to co-author with two e-tech fellows to publish a book chapter about second language acquisition and gaming. That sparked my further interest in doing research on this topic. I will never forget Dr. Ferdig used the word "expert," encouraging me to mentally position myself as a promising researcher in my field and plan what I should do to make it a reality. I feel deep appreciation for his willingness to serve as a co-chair on my committee even after he left UF.

Dr. Fang was always available whenever I needed help with my research. He kindly shared literature related to my study, loaned me books, and gave me detailed feedback on my prospectus. I am deeply grateful to Dr. Fang for letting me sit in on his academic writing course; from this, I gained a lot of practical skills in writing. I marvel at Dr. Fang's high scholarly productivity, which urges me to work harder in the future. I genuinely appreciate his tremendous encouragement and perceptive advice as I struggled to write my dissertation.

Dr. Thompson kindly allowed me to sit in on his second language teaching class, which widened my vision of using technology innovatively in language classrooms. He remembered my research and brought back handouts about

gaming research for me when he attended an international conference in Hong Kong. When he was on vacation in Utrecht, Netherlands, he emailed his feedback on my prospectus in time. Still, I shall never forget Dr. Thompson wore a cute pink T-shirt to my dissertation proposal defense and later told me that pink was his family color which he wore to bring me good luck. He stayed on my committee for a while even after he retired. I will keep reading Dr. T's interesting blogs and applaud his adventures around the world.

I was very fortunate to have Dr. Behar-Horenstein on my committee after Dr. Thompson left. I cannot imagine how my dissertation proposal would have been drafted without taking her proposal writing course in the very beginning. I also enjoyed her course on professional preparation for working in academia. Dr. BH's vitality, enthusiasm, and cheerfulness are absolutely contagious. Her glowing smile is just like Florida sunshine, which always makes me feel uplifted.

Over the past few years, I have encountered many supportive professors at the School of Teaching and Learning at UF. I am heartily thankful to Dr. Colleen Swain, who once stayed on my committee and inspired me to embark on research work related to educational technology. I would also like to thank Dr. Ester Johanna De Jong and Dr. Candace Harper for remembering me and emailing me useful literature related to my research topic. I sincerely thank Dr. Danling Fu, who always welcomes us international students so warmly to have get-togethers at her house. This means a lot to us who are so far away from our families while studying here. Also, I am

deeply impressed by Dr. Fu's solid work ethic and strong self-discipline, which inspire me to strive for greater efforts in my research.

I am greatly indebted to many great colleagues. Special thanks must go to my study group members: Vasa Buraphadeja, Hsiao-Yu Chang, Chu-Chuan Chiu, Juan Du, He Huang, Jiyoung Kim, Joanne Laframenta, Feng Liu, Qing Liu, and Shih-Fen Yeh. I thank my dear buddies for their keen interest in my dissertation and constructive feedback on my data analysis and presentations. In the context of "social constructionism" during our regular meetings every Friday afternoon, their input into my work has supplied me with fresh impetus for my research. I also wish to thank Byeon Seongah, Ya-Yu Cloudia Ho, and Jemina Espinoza Howlett, who were once my office neighbors, for sharing learning and teaching experience with me. The camaraderie among us all makes this long journey not so lonely. I believe you will be "Phinally Done" soon! Furthermore, I really appreciate the company of Ivy Haoyin Hsieh (Dr. Ivy!) and later Chu-Chuan when we burned the midnight oil on the third floor in Norman Hall. I would also like to thank Sandra Hancock (Dr. Hancock!) who offered me help as I prepared for my qualifying exam and greatly soothed my nerves. Moreover, I am thankful for Patricia Jacobs, who let me interview his son about gaming experience in the initial stage of my pilot study.

I would like to thank my friends, Kertesha Riley and Tom Livsey, who generously offered me editing help. Their valuable time and keen sense of language largely contributed to the final version of my dissertation.

A number of friends from afar who always extended their help and support deserve my sincere appreciation. Those friends include Juan Xiao (娟儿) and her family, Rongrong Wu, Huang Lin, Dr. Mingfang He, Dr. George Cox, Dr. John Dieobolt, Mr. Lili Li, Yi Feng, Min Zhang and her family, Yi Liu and her family, Lian He, Xia Peng, Ni Zeng, Xiaoyan Ye, Jianzhong Ma, Julan Feng (冯姐). Their constant concern and emotional support are very important to me and greatly enrich my life.

It is a pleasure to thank those who have provided me with financial support over these past years. I would like to sincerely acknowledge UF Alumni Fellowship, which supported me for four years. I am extremely grateful that the College of Education kindly deferred my admission and fellowship for one year when I was not able to start my doctoral studies in Fall 2004. Otherwise, it would never have been possible for me to pursue my PhD. The work leading to this dissertation has also been financially supported by the International Research Foundation for English Language Education (TIRF) Doctoral Dissertation Grant and Association for Academic Women Madelyn Lockhart Dissertation Fellowship at UF. Furthermore, I am grateful to my advisor, Dr. Coady, and Dr. Cynthia Hsien Shen in the Chinese Studies Program at UF, who offered me teaching assistant jobs during my write-up stage. All of the financial support mentioned above has significantly contributed to the completion my research and writing.

Thanks are also due to the four participants and their parents. Recruiting participants for my research was not easy. Without their support, I would not be able

to do my research. My special thanks go to the parents, whose open attitudes towards my research made this happen. I would also like to express my earnest appreciation to my TIRF doctoral dissertation grant proposal reviewers, Dr. Jonathan deHaan, Dr. James Gee, and Dr. Yong Zhao, for their valuable time, assiduous efforts, and precious feedback.

Last, but by no means least, my deepest debt of gratitude is to my family. The unconditional love and the unwavering support from my parents, Jingcheng Li (李镜城) and Yilian Hu(胡义莲), are appreciated far beyond words. I was lucky enough to have my parents visit me during my dissertation writing. They always gave me a nice “meal call” whenever delicious food was prepared by my dad. They took care of my daughter 24/7 so that I could lock myself in my office and write. I owe them so much that I can never pay back. 亲爱的爸爸妈妈，谢谢你们一直以来的信任、鼓励和不计回报的爱。谢谢你们对女儿追求的梦想总是给予无限的支持，对女儿的任性总是给予永远的包容。你们辛苦了！ In addition, I appreciate my brother, Peitao Li, my sister-in-law, Ping Wang, and my nephew, Changxuan Li, for their faith in me and continuous support.

I would like to express my heartfelt gratitude to my husband, Xiaoping Han （撖小平）and his family. My husband’s boundless love, understanding, faith, and support enabled me to complete this degree. I am so fortunate to have him in my life as someone who I can share with every bit of my thoughts. He is always there giving me immense confidence that would never be obtained from anyone else. I extend my sincere thanks to my husband’s family, who have given us remarkable

support for so many years. Moreover, I am so blessed that my daughter, Xiaoxiao (笑笑), was born after my data collection was completed. Obviously, she grows faster than my writing. Playing with her and enjoying her bright smiles is the most relaxing and happiest thing I have ever had in my life. I thank Xiaoxiao, my little angel, for her company, which makes my PhD journey so much more meaningful and worthy.

This dissertation is also dedicated in memory of my grandma, Shuhua Chen (陈淑华). It is a pity that my dear grandma was not able to witness me graduating with a PhD degree. Her endless love and timeless support will accompany me in all my pursuits. I will stay healthy and happy as she always expected.

Without all those who have given me on-going support and warm encouragement in various ways, I would never have become the person I am today. I cannot thank them enough. I offer my regards and blessings to all of them. Go Gators!

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Zhuo Li

August 2011

Chair: Maria Coady
Cochair: Richard Ferdig
Major: Curriculum and Instruction

As noted by researchers (Funk, Hagen, & Schimming, 1999; Squire, 2006; Williams, 2003), many youth today spend more time playing in digital worlds than reading, or watching TV or films. Though many people, parents and teachers, still take video games as mere entertainment, "gaming culture" (Sanford & Madill, 2007) and "game literacy" (Gee, 2007) have been proposed to view gaming as a positive and potential tool in literacy development. With the notion of literacy as reading and writing skills being expanded to multiliteracies (New London Group, 1996) and multimodal literacy (Kress, 2003), studies on gaming in the field of education have been increasing in recent years(e.g.,Compton-Lilly, 2007; Dubbels, 2009; Ferdig, 2007; Squire, 2005; Zhao & Lai, 2009). However, most of the studies are conducted with native English speakers and deal with the features in games that could facilitate learning. What remains to be explored is what adolescent English language learners' (ELLs') online gaming experience is like.

To fill this gap, this qualitative study sought to understand how adolescent ELLs were engaged in second language (L2) literacy practices through a popular massively multiplayer online role playing game (MMORPG), *World of Warcraft* (*WoW*). This study triangulated multiple data sources, including interviews, observations, and artifacts. Through an ethnographic multiple case study approach, this study presents a "rich, 'thick' description" (Merriam, 1998, p. 29) of what L2 literacy practices occur in online gamiretang.

A bottom-up perspective on gaming activities, literacy activities, and literacy practices provided the lens through which the nature of the literacy engagement could be viewed in a dynamic way. The study found the participants were involved in a complex process of socializing, information seeking, strategizing, and problem solving concurrently within and around the game. In *WoW*, the participants' literacy engagement occurred when their excitement and enthusiasm were aroused by the joint functioning of reward, immersion, and immediacy in a multimodal gaming environment replete with scaffolding, interaction and collaboration.

CHAPTER 1
INTRODUCTION

Overview

Few teachers and educators would dispute the daunting challenge they face today to engage students to learn in school. However, what is evident from observation and existing research is that students are increasingly disengaged from reading and writing in school, while at the same time they take pleasure in out-of-school activities, especially playing in a digital world or cyberspace such as surfing the Internet, communicating via instant messaging and text messaging, socializing on Facebook, and playing video games (Ito et al., 2008; Subrahmanyam & Greenfield, 2008). King and O'Brien (2002) use the term "a literacy Catch-22" (p. 40) to describe how adolescents in a new world of information are faced with the dilemma between out-of-school activities featuring multiliteracies and print-bound learning in school. This dilemma may undermine or hinder adolescents' digitally, critically literate and intermedial competence (King & O'Brien, 2002).

Compared with the "official" literacy promoted in school, playing video games is labeled as one of the "unofficial" literacies (Dyson, 2005) among adolescents. For English language learners(ELLs), who are urged to acquire the English language rapidly but are "not faring well in U.S. schools" (August, 2006, p. xiii), playing video games may become a more thorny issue, because it begets parents' and teachers' concerns about time spent playing rather than learning. Though researchers (e.g., Gee, 2003; Self, Mareck, & Gardiner, 2007) have called attention to the literacy opportunities of video games for learning, little empirical research has examined

adolescents' literacy activities in gaming, and even less is known about ELLs' views of the gaming experience. To fill this gap, this qualitative study seeks to understand how adolescent ELLs are engaged in second language (L2) literacy practices through a popular massively multiplayer online role playing game (MMORPG), *World of Warcraft* (*WoW*).

Statement of the Problem

As noted by multiple researchers (Funk, Hagen, & Schimming, 1999; Squire, 2006; Williams, 2003), many youth today spend more time playing in digital worlds than reading printed texts, or watching TV or films. A recent national survey (*Major New Study Shatters Stereotypes about Teens and Video Games*, 2008) found that about 97 percent of American teens between the ages of 12 and 17 play some type of video game. In stark contrast to adolescents' enthusiasm for playing video games outside of school, many lack interest in actual in-school learning (e.g., Baker, Dreher, & Guthrie, 2000; Guthrie, 2001; Guthrie, 2004; Guthrie& Wigfield, 1997; Ivey & Broaddus, 2001). Previous research on students' literate lives outside of school has found that students who seem to be disengaged from school learning may, actually, be actively involved in various literacy practices outside of school (Carr, 2002; O'Brien, 2001). The disparity between students' attitudes towards their school tasks and out-of-school activities begs the question: "why?" To answer this question, it is essential to allow adolescents to voice their own experiences.

While many people, parents and teachers, still view video games as mere entertainment, Sanford and Madill (2007) claim that "gaming culture" is a culture that

is “largely unquestioned and unexamined” (p. 438). In a similar vein, Gee (2003, 2007), a leading researcher in gaming and literacy, argues that video gaming is a new type of literacy. This new literacy involves consuming (reading) and producing (writing) situated meanings in specific semiotic domains recruiting oral and written language, voice communications, images, gestures, symbols, and movements (Gee, 2003, 2007). Semiotic domain refers to, in Gee’s words (2003), “…any set of practices that recruits one or more modalities (e.g. oral or written language, images, equation, symbols, sounds, gestures, graphs, artifacts, etc) to communicate distinctive type of meanings” (p. 18). Seen through this lens, literacy is not a set of isolated skills involving reading and writing in print, but rather consists of socially and culturally constructed practices (Comber& Cormack, 2005) across modalities. While reading, especially reading in print, is widely viewed as “the best measure of messaging” (Guthrie, 2004, p. 7) in school, a variety of reading activities across multiple media take place when students deal with an avalanche of information outside of school.

Technological development has brought enormous changes in communication and social practices, which have already had a profound impact on what it means to be literate. Encompassing the complexity of culturally and linguistically diversity and increasingly globalization, some time ago the New London Group (1996) proposed the notion of “multiliteracies” to reveal the constantly growing variety of text forms brought by information and multimedia technologies. This perspective goes beyond the traditional reading and writing activities in “page-bound, official, standard forms of

the national language" (New London Group, 1996, ¶ 2). Undoubtedly, multiliteracies as an expanded notion of literacy brought by digital technology innovations, have been highlighted in the out-of-school activities of adolescents (Jenkins, 2006), who are "the most media literate of any generation" (Dodge et al., 2008, p. 226).

Facing the crisis that too many children are disengaged from school learning, Guthrie (2004) proposed teaching for literacy engagement, which is defined as "the joint functioning of motivation, conceptual knowledge, strategies, and social interactions during literacy activities" (Guthrie & Anderson, 1999, p. 20). By "literacy," Guthrie (2004) generally refers to reading activities in the classroom. Though this definition of "literacy" is situated within school learning, especially reading, the conception of literacy engagement digs deep into how students are involved in reading and provides groundwork for further exploration into students' engagement in other literacy practices as well. In prior studies about literacy engagement, the central role that motivation plays in learning has been widely recognized. Various interventions such as application of technology and innovative teaching approaches have been employed to promote students' motivation as revealed in substantial literature (e.g., Bangert-Drownsb & Pyke, 2001; Barrett, 2007; Fairbanks, 2000; Worthy & Prater, 2002). Despite the research findings that video games enhance computer literacy (Benedict, 1990), attention (Bavelier & Green, 2003), reaction time (Orosy-Fildes & Allan, 1989), higher-level thinking (de Aguilera & Mendiz, 2003; Delwiche, 2006), and problem-solving skills (Gee, 2003; Johnson, 2005), little research (e.g., Squire, 2005) has been conducted to investigate

students' learning process involved in gaming. What remains to be explored is what literacy practices actually occur when adolescents play video games and what their literacy experience is like in a gaming world. The gap between students' school literacy and out-of literacy may be closed if educators can identify and value students' literacy practices in gaming that can be transferred to academic literacy acquisition.

Of the studies on students' motivation or engagement in literacy development, the majority of research has been conducted with native English speakers. Actually, lack of motivation has been a perennial problem nationwide, and some ELLs are also among those unengaged learners (Cluck & Hess, 2003). There is a rapid increase of the student population who speak English as a second language. According to Ariza, Morales-Jones, Yahya and Zainuddin (2006), U.S. Department of Education estimates that 5,044,361 ELLs were enrolled in public schools between 2002 and 2003, approximately 10 percent of the total public school enrollment. Estimates further suggest that the ELL population is growing at a rate of 9.3 percent per year, a rate nine times faster than the general school population (Ariza et al., 2006). As declared by August, Carlo, Dressler, and Snow (2005), national data (National Center for Education Statistics, 2003) confirm that a "large and persistent gaps" exist between language-minority students' reading performance and English monolingual students' (August et al., 2005, p.50). As said by Bridgeland, Dilulio, and Morison (2006), one-third of all students drop out before receiving their degree and nearly half of all Native American, Hispanic, and African American students do not

complete high school because they were disengaged and classes were out of touch with their career goals (as cited in Shaffer, 2006). Though lack of motivation has problematized ELLs' school learning (Bridgeland, DiIulio, & Morison, 2006), few studies address the issue of ELLs' motivation in learning or literacy engagement.

In marked contrast to a lack of motivation in school learning, students are engaging in multiliteracy activities outside of school spaces (Prensky, 2005; Sanford & Madill, 2007). As Yi (2005) noted, of the limited literature dealing with students' out-of-school literacy practices, little information is available on literacy practices generated by students themselves. The influence of parents, families, and communities is also identified as a main research focus in terms of sociocultural contexts and language-minority students' literacy development (August & Shanahan, 2006). However, with the enormous changes in technology development, few researchers on L2 literacy have examined this group of students' "digital funds of knowledge" (Sarsar, 2008).

Given the aforementioned deficiencies in the existing research, it is not surprising to find that ELLs' engagement in video games outside of school has received scant research attention. Previous research (Harter 1981; Harter, Whitesell, & Kowalksi, 1992) has shown that students' intrinsic motivation for schooling declined as they progressed through school. Facing the salient discontinuity between some students' passive learning at school and active involvement in gaming, educators need to create opportunities that students' passion for video games may translate into school learning. Dodge et al. (2008) assert that

"children's media use represents a powerful force that, if better understood and leveraged, bears potential to usefully transform the activity of schools" (p. 226). In order to better "reach them [students] to teach them" (Tomlinson & Doubet, 2005), it is necessary to understand how adolescent ELLs are engaged in L2 literacy engagement in their gaming world.

Purpose of the Study

The purpose of this study was to investigate what L2 literacy practices occurred when adolescent ELLs played *WoW* and understand how they were engaged in those literacy practices.

Research Questions

The overarching question of this study was: "What L2 literacy practices are adolescent ELLs engaged in with *WoW*?" The following questions were explored:

1) What L2 literacy practices are they engaged in within *WoW*?
2) What L2 literacy practices are they engaged in around *WoW*?

Significance of the Study

This study contributed to the current research body on ELLs' literacy development. First, this study added to the knowledge of ELLs' out-of-school literacy lives. As presented above, there is a paucity of research on ELLs' out-of-school literacy related to technology use and even none of research on ELLs' video gaming has been made. Many learning opportunities for ELLs may be unexplored, which might indicate research on computer games is only in the initial stages. Since the study attempted to uncover what literacy practices occurred and how these literacy

practices engaged adolescent ELLs in online computer games, it would expand our knowledge about ELLs' out-of-school literacy practices, especially their new literacies.

Second, this study added to the existing literature about students' gaming experiences. Facing the limited volume of empirical studies about adolescents' gaming experience outside of school, I took a closer look at adolescent ELLs' literacy practices through online computer games. The existing analysis on the potential of computer games in learning undoubtedly served as the theoretical foundation for my research, and in turn, this descriptive study of ELLs' engagement in gaming literacy practices would widen our view of how video games could be applied for productive learning.

Third, this study brought parents broader notions of literacy embedded in gaming. They might get access to knowing what their children did in gaming, why they were so occupied by computer games, and what they should be encouraged to do. Parents might realize their crucial role in making wise decisions about how computer games could be used towards children's literacy enhancement.

Furthermore, by examining ELLs' one type of "alternative literacies" (Sanford & Madill, 2007) which students were engaged in outside of school, this study would help teachers to reach students in order to teach them. Though pedagogical suggestions were not the primary focus of this study, understanding adolescent ELLs' gaming experience would expand teachers' knowledge about students' out-of-school literacy practices. Teachers may be inspired to create classroom activities to

connect with students' gaming experience, and therefore engage students in academic learning. Meanwhile, in order to trigger students' interest in school learning and prepare them well for the fast developing information age, curriculum developers may consider introducing more multiliteracies embedded in games to teaching materials.

Last, literacy educators' and researchers' growing interest in students' gaming experience calls for cooperation between educators and game designers. With the dilemma of making school-like games or making game-like schools, extensive and intensive research and game development is desirable to incorporate the essence of computer games in school learning rather than superficially borrowing the format of gaming.

Definitions of Key Terms

Below, I clarify the key terms that are used in the study.

(1) **Avatar**: a player's visual representation in a gaming environment. It is also called "character." In this stduy, "avatar" is used interchangeably with "character."

(2) **ELL**: English Language Learner. In this study, English language learners (ELLs) are used interchangeably with ESL students.

(3) **ESL** students: ESL students refer to students who acquire English as a second language (ESL).

(4) **Gaming activities**: The activities that are directly observed in one's game play (e.g., searching a keyword from a "Help" item, writing text messages to other players, talking with other players through headphones).

(4) **Literacy**: When Gee (2007a) refers to video gaming as a new literacy, he defines literacy as "any technology that allows people to 'decode' meanings and produce meanings by using symbols" (p. 135). Extending this definition, by "literacy" in the study I mean effective functioning in situated social practices through meaning making across various modalities (texts, images, symbols, numerals, sound, movement and so forth) in a multimodal environment. Given that the affordances of traditional literacy such as reading and writing are provided in gaming, the "literacy" is also an extension of conventional literacy in print and becomes conventional literacy through gaming in a multimodal environment.

(5) **Literacy events and literacy activities**: "instances and occasions" (Baynham, 1995) of literacy in use or "activities where literacy has a role" (Barton & Hamilton, 2000, p. 7.) Because all the participants were engaged in activities in the game and the study was in the context of gaming, I prefer to use "literacy activities" throughout the dissertation. The word "activity" is better to fit in gaming's nature of motion and speediness. The only place I use "literacy events" is when I refer to the original authors who use "literacy events."

(6) **Literacy practices**: a range of practices of "utilising literacy" (Barton & Hamilton, 2000, p. 8). In this study, literacy practices involve using languages and semiotics (e.g. images, words, symbols, actions) for effective participation in a social context in which "the literacy" is embedded.

(7) **Literacy practices *within* games**: literacy practices that are indigenous to the game playing process.

(8) **Literacy practices *around* games**: literacy practices that are NOT embedded in game playing per se but relevant to or born out of game play. These literacy practices include both online practices (e.g. seeking information on the Internet) and offline practices (e.g., communicating with other players about game play in real life).

(9) **Massively multiplayer online role-playing game (MMORPG):** a genre of computer role-playing game, in which players interact with one another in a virtual world to collectively complete tasks.

(10) **Traditional literacy**: "a set of cognitive skills possessed (or lacked) by individuals" (Hamilton, 2000). Generally, it refers to an individual's competence in reading and writing in print. "Traditional literacy" is used interchangeably with "conventional literacy" in this study.

(11) **Video games**: To be consistent with the term "video games" indicated by Gee (2003), in this study, "video games" refer to both games played on platforms and games played on computers. In citing other researchers' works, the original terms, either computer games or video games, are kept.

Limitations of the Study

The study was to shed some light on adolescent ELLs' literacy engagement in online gaming as one aspect of their out-of-school literacy experience. To the population of ESL students, who are economically disadvantaged in general, "digital divide" may exist when it comes to the access to online computer games. Moreover, as Williams (2005) asserts that "issues of race, gender, or social class have much to

do with differences in opportunities as well as comfort and facility in engaging with literacy through computers" (p. 705), it is important to realize that the participants in this study were a part of adolescent ELLs in a university town. Therefore, the findings in this study were not intended to target all ELLs who might not be able to play or may not like playing online games.

This study examined only cases of individual ELLs' gaming experiences. The results cannot be simply generalized to all ELLs who play online games. However, multiple case studies allow an in-depth look into the participants' literacy practices in gaming rather than to scratch the surface of this issue.

Limitations may stem from the limited access to newly arrived ELLs who played *WoW* and players in varied levels. The four Chinese students had been in the U.S. for several years ranging from four to nine years. Newly arrived ELLs' literacy activities in *WoW* may reflect more interesting findings about their language use and cultural adjustment. Also, there were three "newbies" in *WoW* and one player at the maximum level but no middle level players. *WoW* players at varied levels will display more multifaceted literacy activities involved in different levels of game play.

The primary purpose was not to provide specific pedagogical suggestions about how teachers can integrate students' literacy experience in gaming into their classroom teaching; rather, this study would inform teachers, parents, and curriculum designers of the digital experiences in the context of the students' literacies outside of school. In short, this study sought to "reach them [students]". In

order to “teach them,” further research should explore how game literacy can be channeled into academic literacy acquisition.

Chapter Summary

Nowadays, it is not unusual to find that young people spend much time on video games. However, students’ motivation to learning declines during middle school. The previous research offers some insight into students’ literacy engagement, which suggests students can be motivated to learn and their engagement can be fostered when learning environment is enhanced. Admittedly, students’ school literacy cannot represent the whole world of their literacy development. Noting that adolescents develop multiple literacies that are more “complex, dynamic, and sophisticated than the narrow confines of school-based literacy” (Phelps, 2004, p. 7), Phelps (2004) concludes that much more research is needed to look at “adolescent ‘multimediating,’ or literacy in varied media, both in and out of school” (p. 7). As discussed above, the vast majority of research on literacy engagement has been conducted with native English speakers within the classroom context. Consequently, first, we do not know much about ELLs’ engagement in literacy acquisition. Second, even less is known about ELLs’ preferred out-of-school literacy practices. Therefore, this study sought to understand adolescent ELLs’ L2 literacy engagement in online gaming. Furthermore, the research questions are posed in light of this purpose.

CHAPTER 2
REVIEW OF LITERATURE

Overview

This study sought to understand how adolescent ELLs were engaged in L2 literacy practices through online gaming. Three areas of theories and research in multiliteracies, literacy engagement, and L2 literacy converge to inform this investigation. First, I view "literacy" and "literacy practices" from a theoretical perspective. From the sociocultural perspective of literacy, "multiliteracies" (New London Group, 1996) sets the foundation for further review of research on literacy opportunities in gaming (Sarsar, 2008). Second, an overview of the fundamental issues of literacy engagement and research on adolescents' out-of-school literacy is presented. Third, the connections and disconnections between the notions of literacy engagement and game literacy are analyzed. Later, the review shifts to research on L2 literacy research involving gaming. Finally, the popular online game, *World of Warcraft* (*WoW*), is briefly described, and its relevance expanded upon.

Literacy from a Sociocultural Perspective

Reviewing the development of literacy in American history, Guthrie (2004) concludes that literacy has evolved from "a tool for religious education" in the 17th century, to "a skill for economic productivity" after the Industrial Revolution in the 19th century, to "a symbolic indicator of information management" in the 21st century (pp. 6-7). He notes that the capability of managing information and dealing with messages is highly valued in today's information-based economy. The noticeable trend of literacy expansion with the new emerging technologies demands rethinking

what literacy is. In this section, multiliteracies, multimodal literacy, media literacy, and game literacy as emerging new literacies are discussed below.

L/literacy: Reading the Word and the World

In this study, literacy is conceptualized from a sociocultural perspective. As opposed to the traditional conception of literacy in which isolated skills of reading and writing are at the center, a theory of literacy as social practices (Barton & Hamilton, 1998; Gee, 1992; Street, 1984) emphasizes "the social relationships and institutions within which literacy is embedded" (Barton & Halmiton, 2000, p. 16). In other words, literacies are situated (Barton, Hamilton, & Ivanič, 2000) in certain social and cultural contexts.

Lanksher and Knobel's account of "L/literacy" (2006) sheds light on the ways in which literacy is viewed in this study. Drawing on Gee's "D/discourse" (1996), Lankshear and Knobel put forward "L/literacy" (2006). Gee uses "discourse" (with a little "*d*") to mean language-in-use and "Discourse" (with a big "*D*") to designate language plus social dimensions. In the same vein, Lankshear and Knobel (2006) differentiate between "literacy" and "Literacy." The term "literacy," with a little "*l*," describes the actual process of reading and writing. However, the "Big *L*" "Literacy" refers to reading and writing plus "something," which is always a part of "being in the world" (Lankshear & Knobel, 2006, p. 233). On the basis of "L/literacy," the conception of "literacy" in this study suggests two dimensions: the "little *l*" literacy as skills and the "Big *L*" Literacy as social practices.

Literacy (with a little "*l*") as Skills: Reading the Word

Comber & Cormack (2005) have identified the changing theories about literacy from a set of isolated skills involving reading and writing to socially and culturally constructed practices. The traditional notion of literacy as a set of cognitive skills is based on the past research into individual learner's internal and psychological act (Comber & Cormack, 2005). Conventional literacy is often equivalent to school learning. Cicourel and Meghan (1985) note that literacy has been unquestioningly assumed as the purpose and product of schooling since the beginning of twentieth century (as cited in Cook-Gumperz, 2006, p. 19). Similarly, Obidah (1998) states literacy is often used to describe structured processes of schooling.

Venezky (1990) views literacy as a collection of abilities at varied levels termed as "zones." At the lower level, a universal set of reading and writing skills are necessary for one's "self-sustained literacy growth" (Venezky, 1990, p. 72). This zone of ability is primary but not inadequate for many ordinary demands in real life. A higher zone of abilities fulfills the purpose of full participation in society. From this perspective, merely reading and writing, which are central to school literacy, is not enough for students to fulfill social participation. This actually has garnered much attention from educators. According to Pourbaix (2000), school literacy as "a set of taught skills" tend to downplay practices "which emerge and change over time and with context" (p. 129). As observed by Cook-Gumperz (2006), school literacy is a system of decontextualized knowledge that is validated through test performances. She challenges the equation of literacy and schooling, asserting it is impossible to

have schooling without literacy but it is possible to have literacy without schooling. While literacy is still the goal of schooling, literacy is not solely the outcome of schooling (Cook-Gumperz, 2006). In a similar fashion, Zamel and Spack (1998) has put forward "academic literacies" to replace "academic literacy," since they believe that multiple approaches to knowledge must be recognized in addition to merely reading and writing skills.

Literacy (with a big "*L*") as Social Practices: Reading the World

Freire's work on literacy and pedagogy (1987) exemplifies how the relationship between "human beings and the world" (Giroux, 1987) could be central to literacy from a sociocultural perspective. Based on a historical view that "human beings first changed the world, secondly proclaimed the world and then wrote the words" (Berthoff, 1987, p. xiii), Freire stresses that reading the world actually preceded reading the word. Going beyond the rigid comprehension of literacy as "the treatment of letters and words," Freire and Macedo (1987, p viii) recommend a view of literacy as a "form of cultural politics." This involves thinking of "the relationship of learners to the world" (Freire & Macedo, 1987, p. 106) mediated by social practices. Taken together, the concept of literacy as "reading the word and the world" (Freire & Macedo, 1987) presents an expanded notion involving not only learners' activities of decoding and encoding alphabetic print but also their understanding how the world operates socially and culturally (Lankshear & Knobel, 2006).

In literacy studies, "literacy event" and "literacy practice" are two fundamental notions. Heath (1982) defines a "literacy event" as "any occasion in which a piece of

writing is integral to the nature of participants' interactions and their interpretive processes" (p. 93). Based on this definition, writing and any interactions involving writing are counted as literacy events. Later, this conception is broadened by other literacy researchers. Street (1984, 1988) employs "literacy practices" to refer to "both behavior and conceptualizations related to the use of reading and/or writing" (Street, 1988, p. 61). Street views literacy as a set of social practices mediated by reading and writing. Going beyond reading and writing, Grillo (1986) extends the notion of literacy further to "communicative practices." This inclusive notion of literacy denotes the social activities through which language or communication is produced. Therefore, literacy events can be viewed as constituents of literacy practices. The former are visible, but the latter have more theoretical nature (Resnianskaia, 2000). Recognizing the social dimensions of "literacy events," the notion of "literacy practices" suggests a "link between the activities of reading and writing and the social structures in which they are embedded and which they help shape" (Barton & Hamilton, 2000, p. 7). Simply put, as central to a social view of literacy, literacy practices are "what people do with literacy" (Barton & Hamilton, 2000, p. 7).

The renowned scholar James Gee was also among the first to theorize understanding literacy on a sociocultural approach. His interpretation of literacy by introducing "discourse" offers a powerful way to understand literacy practices are socially situated and culturally constructed. By "a discourse," Gee (1998) refers to "ways of using language, of thinking, and of acting" in a "social network" (p. 51). For

Gee, a way of using literacy is more powerful than a specific literacy per se (Lankshear & Knobel, 2006). Gee distinguishes a person's primary discourse from her/his secondary discourse. One's primary discourse indicates ways of "face-to-face communication with intimates" (Gee, 1998, p. 55), whereas one's secondary discourse involves associations with "social institutions beyond the family" (Gee, 1998, p. 56) such as schools, workplaces, churches among others. Gee (1998) defines literacy as "control of secondary use of language" (p. 56). Given a variety of secondary discourses, many applications of "literacy" can be perceived. Gee (1998) states mainstream middle class children acquire and practice literacies that are embraced by dominant secondary discourses rather than learn these literacies in school. Nevertheless, children from non-mainstream homes may not have opportunities to acquire dominant literacy.

This theoretical understanding in virtue of "discourse" could also be led to inquiry in practice. For example, the classic study of literacy by Heath (1983) in *Ways with Words* reflects that non-mainstream students' primary discourses are significantly different from the secondary discourses they experience in school. In this ethnography, Heath (1983) explored how children's literate development was shaped by their community culture. For the children of white working class in Roadville and those of black working class in Trackton, school was the first place where they were exposed to the townspeople's ways of using oral and written language. Different perceptions and practices of reading and writing between the two rural communities and townspeople paved different ways for children's

schooling. Unlike parents in the other two communities, townspeople parents provided their children with more and better readiness for school life, which was consistent with townspeople's literate notion. The study implies that teachers have to find accessible ways to understand the differences in language and culture their students bring to their classrooms. The social and cultural underpinnings rooted in literacy practices should never be neglected.

During the past two decades, "New Literacy Studies" (NLS) (Gee, 1991; Street, 1996) has been proposed and gradually accepted in the movement of expanding literacy from a general and self-contained competence in reading and writing to social practices (Gee, 2000). Street (2003) states the "new" in NLS refers to a new approach to look at the nature of literacy. The "new" studies of literacy recognize multiple literacies and shift the previous focus on acquisition of skills as a dominant approach to socially and culturally situated activities. This view actually resonates with Freire's understanding of literacy within given social contexts. In short, from the L/literacy perspective, the conception of "literacy" in this study entails reading the word and the world as well.

Multidimensional and Multifaceted Literacies

To understand adolescent ELLs' L2 literacy practices in a gaming world, it is of the utmost importance to review the expanded conception of literacy. In line with the rapidly technology development and growing globalization, "literacy" is no longer a traditional concept embedded in homogeneous cultural and linguistic backgrounds and illustrated in paper-based reading and writing. Rather than "a set of encoding

and decoding skills" (Yi, 2005, p. 20), the social view of literacy recognizes "a multiplicity of literacies (Comber & Cormack, 2005, p. 3) in our lives. The understanding of multiliteracies can be perceived from two principal aspects of "multiplicity." First, "literacy" is expanded due to the cultural and linguistic diversity and increasingly globalized societies. Second, new information and multimedia technologies play an important role in "multiliteracies." In this section, a tapestry of multidimensional and multifaceted literacies is demonstrated by revisiting the notion of multiliteracies by the New London Group (1996) and interweaving a few other terms about literacy burgeoning with the technology development. In addition, as a kind of newly emerging literacy, game literacy is introduced at the end.

Multiliteracies: Literacy beyond Reading and Writing Texts

Facing the changing social environment, the New London Group (1996) follows a sociocultural perspective that situates "multiliteracies" in such a multilingual, multicultural, and globalized world. Though the New London Group put forward the new approach to literacy pedagogy more than ten years ago, to a large extent, their foresight and keenness has been reified in our literacy lives today. Evidently, the notion of literacy has evolved from "unchanging and universal 'skills' or knowledge" to "socially and culturally constructed practices" (Comber & Cormack, 2005, p. 3). Having discerned "the realities of increasing local diversity and global connectedness," the New London Group (1996) argued that educators and students must see themselves as active participants in social change, so they can be active designers of social futures. The New London Group's study is a landmark in literacy

research, because the “what” and the “how” of literacy pedagogy proposed by the group of international researchers is closely connected to the changing social environment. Ever since, a growing body of literature have been addressing the complexity and plurality of literacy (e.g., Gallego & Hollingsworth, 2000) and many terms have been emerging to address the multiplicity of literacy, such as “multiple literacies”(e.g., O’Brien, 1998), “new literacies” (e.g., Lankshear & Knobel, 2006), “media literacy”(e.g., Hobbs, 1996; Jenkins et al., 2006; Schwarz, 2003), “digital literacy,” and “multimodal literacy” (e.g., Jewitt & Kress, 2003; Jeweitt, 2008).

Based on the work of social semiotics and visual design (Kress & van Leeuwen, 1990; Heller & Pomeroy, 1997), Street (2005) claims that reading and writing practices of literacy are far from enough for people “to be ‘literate’ in the future” (p. 248). In Hull and Schultz’s words (2001), “schooling and pedagogy constrain our conceptions of literacy practices” (p. 585). In traditional learning and teaching, the teacher may “bank” or “deposit” knowledge isolated from the student’s personal experience and background into the mind of the student (Freire, 1998). However, in a pedagogy of multiliteracies, the learner is viewed as an active “designer” in learning process with an emphasis on social connections. Accordingly, in teaching and learning, a pedagogy of mutiliteracies is demonstrated in a complex integration of four factors: (1) students’ social roles and sociocultural backgrounds are emphasized in situated practice; (2) collaboration in practice is fundamental in learning and scaffolding is provided in overt instruction; (3) critical framing is essential to help learners critically analyze the gained knowledge from historical,

social, cultural, political, and ideological perspectives; (4) learners need to contextualize and transform their knowledge in “re-practice” and problem solving in real life -- transformed practice (New London Group, 1996). All the four factors are integrated to empower teaching and learning to achieve success in such a rapidly changing world with cultural and linguistic diversity. The learner is involved in “participatory cultures” (Jekins et al., 2000), which embrace sharing creations, collaborating in solving problems, and establishing informal mentorship. At this point, the social attribute of multiliteracies echoes with “New Literacy Studies”(NLS) (Gee, 1996, 2003; Street, 1993, 2005), which argue literacy happens beyond the privacy of people’s minds but in a world of social, cultural, and institutional activities (Gee, 2007).

Multimodal Literacy: Literacy across Contexts

According to the New London Group (1996), all meaning-making is multimodal. Both new literacies and traditional forms of literacy demand a new view of what comprehending multimodal texts signify. Kress (2003) takes up the need in *Literacy in the New Media Age* to analyze literacy with a focus on “modes.” Mode is referred to “a regularized, organized set of resources for meaning-making, including, image, gaze, gesture, movement, music, speech and sound-effect” (Kress & Jewitt, 2003, p. 1). Kress (2003) further explains that traditional literacy is based on the mode of writing in the media of print, but new literacy is built on the mode of image in the media of screen. Nowadays, “mode of writing” has being giving way to “mode of

image" (Kress, 2003, p. 9). Kress's work puts forward a conceptual framework and tools for rethinking literacy in terms of modality.

First, the transition of the role of images in literacy is worth noting. Traditional literacy is more like "reading the world as told – *reading as interpretation*" but the new literacy is more involved in "reading the world as shown – reading as imposing salience and order, *reading as design*" (Kress, 2003, p. 50). Similarly, The New London Group also used "design" as a metalanguage to discuss how multiliteracies can be addressed in pedagogy. Also, "design" embraces "redesign" (The New London Group. 1996) by those who are making meanings. This notion incorporates a meaning maker's/a designer's competence of making use of the resources in a certain environment. Though there is only one "world as shown," thousands of "worlds as told" may appear. In Kress's (2003) words, "[i]mages are plain full with meaning, whereas words wait to be filled" (p. 4). As we often say "a picture is worth a thousand words," images do have rich meanings. The meanings filled by readers are based on how "the world shown" is read.

Second, a multimodal environment created by new technologies is a feature of this new media age. Multimodal texts are the "texts made up of elements of modes which are based on different logics" (Kress, 2003, p. 46). Logic is the basic rule that two modes (page and screen) need to follow. Given the mode of writing is governed by the logic or time, whereas the mode of image by the logic of space, multimodal texts actually suggest mixed logics. Though images are not rare in traditional literacy, its role as illustration is marginal. They repeat what is "said" in written text

(Kress, 2003). In contrast, on the screen, images are no longer supplementary to texts. Instead, images are dominant while texts are complementary to inform readers with more detailed information. Though texts never disappear on the screen, they become more image-like and shaped by the spatial logic of the image.

Third, a conception of "reading path" is employed by Kress (2003) to reify the process of meaning-making in two modes of writing and image. In such an era where page has been overtaken by the screen as the dominant site of appearance of text, our reading behaviors, such as reading paths, have been changed unconsciously. When we read the old written or printed pages, our reading path follows a clear sequence, which is either circular or linear. To be specific, a clear reading path is given from the top left corner on a page to the bottom right, from the first page to the last. In Kress's words, there is "little or no leeway" (p.4). Sometimes, we may flip through the pages by reading the contents page, the index, and the footnotes randomly, which may fall into the circular sequence as Kress (2003) refers to. By contrast, when texts are presented on the screen, they are subject to the logic of space. Giving an example of a "new page", a screen-like page of a video-game magazine, Kress (2003) points out that "the principles of relevance of the reader" (p.162) determine the reading path. It means that reading paths vary for different readers, because there is a range of possibilities of what is pertinent to us. In other words, the sequence that the reader establishes while constructing meanings from the screen depends on what is the most important to her/him. Kress proposes another notion, "block" to indicate structural meaning or frames to

articulate multimodal texts. Likewise, Jewitt (2004) depicts each visual element in the context of the screen as a block of "space," which constructs textual meaning beyond written contents. The blocks on the screen are presented in different places such as the left versus the right, the bottom versus the top. The size and the position of each block fundamentally verify how the screen looks like and whether the relevance to the reader is concealed or revealed, which ultimately leads the reader to take different reading paths.

Kress and Jewitt (2003) maintain that a multimodal approach to learning treats all modes as equally significant in meaning making and communication. This expands our view of taking reading and writing text in print as the predominant if not the exclusive modes of information. Some scholars (e.g., Mavers, 2003; Moss, 2003) have investigated learning as a multimodal process. For instance, Pahl's study (2003) brings us in a world of a child who played on the carpet of his bedroom floor with small figures, including some models of Pokemon, a "Woody" character from the film *Toy Story,* assorted trucks and miniature animals. Pahl (2003) used photographs to record how the child expressed his meaning across modes and explored a complex pattern of communicative practices in the world beyond the linguistics. Watching the child's unique learning paths led to understanding his learning process. Pahl (2003) calls for a multimodal learning environment at school to encourage students to invent meanings creatively.

To conclude, our time has seen a dramatic evolution of the old page to the new page (Kress, 2003). Today, when we are reading, we may not necessarily mean we

read a written or printed material; when we are writing, we may not really use a pen to write words on a piece of paper, because our reading and writing, to a large degree, has been moved to the screen of the computer or other new information and communication technologies. That is to say, we use the screen for reading and the keyboard for writing. The evolvement of literacy demands a new view to comprehend our literacy practices interacting with texts across contexts. Kress (2003) draws our attention to literacy in the "new media age" (p. 8), in which the screen has replaced the book as the dominant medium of communication. Accordingly, literacy is no longer a traditional concept embedded in paper-based reading and writing. The revolution of computer-based media brings us multimodal texts, which are built up through electronic texts, images, symbols, and sounds among others. Since the screen has become the dominant medium (Kress, 2003), there is an increasing need to reshape our understanding of reading and writing.

Media Literacy

In "Media Literacy: A Report of the National Leadership Conference on Media Literacy" (Aufderheide, 1993, p. 6), media literacy is defined as "the ability of a citizen to access, analyze, and produce information for specific outcomes" (p. 6). In such a media-saturated world today, information can be accessed through complex avenues of text, images, and sounds on radio, TV, and the Internet. Different from traditional media products such as newspaper and TV from which audiences receive information relatively in a passive way, the Internet has brought us in an interactive media culture or "a participatory culture" (Jenkins et al.,1996).

By reflecting on the “media war” (Postman, 1979) between traditional print-based classroom learning and the new media represented by television more than a decade ago, Selfe, Mareck, and Gardiner (2007) offer a dynamic view of how an emerging technology may be questioned, challenged, and accepted by and by. It is interesting to see that television, once as a new medium, was suspected of its negative influence (e.g., violence) by many people. However, television today has been taken as a very “normal” facility even as “the first curriculum” (Selfe et al., 2007, p. 22) in school settings. The survival of television in the “media war” provides a revealing glimpse of how a sort of “collision” could result when “an emerging technology and its accompanying ideology begin to challenge the cultural dominance of long-established practices” (Self et al., 2007, p. 22). Nowadays, video gaming is entangled in a new “media war” when its challenge to the traditional “learning” has been perceived. Attention is called to study on the successful “early adaptors” of emerging technologies – those young people who benefit from “dual literacies of the old and the new ways, successful in both worlds” (Self et al., 2007, p. 22).

Postman (1993) suggests that educators closely examine television and understand its relationship to learning (as cited in Self et al., 2007). Adolescents’ literate practices out of school such as playing video games can never be simply ignored, devalued, and completely denied. The “collision” between the old literacy with an emphasis on reading and writing in print and the new literacy characterized by multimodality can be avoided by understanding, exploring, and embracing the value of the new one.

Game Literacy

Gee's study on gaming and literacy opens up a new approach to the ways in which gaming is viewed as a positive and potential tool in learning. Gee (2003) maintains that when one learns to play video games, she/he is learning a new literacy, which he names "game literacy." Gee (2007a) believes video gaming is a new "literacy," which means video gaming allows people to "decode meanings and produce meanings by using symbols" (p. 135). Gee (2003a) identifies 36 good learning principles incorporated into good video games, of which multimodality is a distinctive feature. Like alphabet as a technology which generates print literacy, game design involves a multi-modal code consisting of "images, actions, words, sounds, and movements" which communicate to players with certain meanings (Gee, 2007a, p. 135). Far beyond one's inside reading and writing activities, literacy occurs in certain social practices, so does game literacy (Gee, 2007a).

In practice, the challenge confronted by educators is how students' game literacy could assist learning. Researchers have been using games to motivate reluctant readers to learn. Dubbels (2009) have found that video games can help develop reluctant and struggling readers' print-based comprehension. He explored how an after-school reading remediation program modified into a games club curriculum made "struggling" seventh and eighth graders engaged in both traditional and new literacy practices. He observed that the students in the games club were more tolerant of his talk about reading and asking them about learning. Also, the students tended to explore and learn about games, which provided interactivity that

unskilled independent reading could not. Dubbels (2009) concludes that comprehension is "transmedial," which means that comprehension is not bounded within print but occurs across a variety of communication and media.

Rich narratives set in video games are also taken as reading opportunities by researchers. Alberti (2008) have argued that video game players are "simultaneously readers and writers" (p. 258). By the same token, Moberly (2008) contends that computer games are produced through "a complex, often hidden process of reading and writing" (p. 290). Compton-Lilly (2007) exemplifies how we could make schools more like games by borrowing the essence of learning principles in gaming. Based on Gee's 36 good learning principles in good games, Compton-Lilly (2007) discusses seven principles that are closely relevant to teaching reading. The seven principles include: 1) "psychosocial moratorium" principle, 2) identity principle, 3) practice principle, 4) ongoing learning principle, 5) probing principle, 6) subset principle and incremental principle, and 7) explicit information on-demand and just-in-time principle. She states that 1) the first two principles are related to learners and the conditions fostering learning; 2) the next three principles explain how learning occurs; and 3) the last two principles are complementary and provide implications for teaching. She finds that the learning principles in gaming are actually not new to the field of reading. Compton-Lilly (2007) discusses the analogy between learning video games and learning to read and describes a reading classroom based on the learning principles in gaming.

Though incorporating voice chat into online games seems to diminish the opportunities of writing in gaming, Moberly (2008) analyzes the implicit messages in online gaming environment and argues that the complex symbolic gaming environments are constructed almost completely through writing. Therefore, computer games hold the potential to help students understand the fundamental compositional process. Robertson and Good (2005) have integrated gaming in teaching writing. They guided ten teenagers to create their own stories by using the computer game authoring tool in a commercial role-play game, *NeverWinter Nights.* In the Game Maker workshop, the participants were involved in discussing games, designing characters, planning plots, storyboarding with digital cameras, and reporting their progress. The participants in this study were not only consumers of the game but also producers. Robertson and Good (2005) found that interactive audio-visual computer games like *Neverwinter Nights* can function as a non-textual medium to engage children in written literacy activities.

Rather than directly using games into teaching, researchers also manage to employ students' knowledge about gaming to teaching reading in print. Jolley (2008) selected game-based books for her classroom library to give reading another chance. In a survey of over 250 eighth-grade students at her school, Jolley (2008) found that over more than 80 percent of the surveyed students played video games. On the one hand, most of the gamers surveyed did not have any clue about game-based texts. On the other hand, of those who were not familiar with game-based texts, their two most favorite texts were based on the video games *Halo* and *World of*

Warcraft. By introducing students to books based on video games, Jolley (2008) created literary opportunities for students through book-talks, comparing books and games, and discussing within a curricular topic. Another study by Beavis (2002) explored how computer games could be incorporated in secondary school students' English learning in the classroom to complement and extend their print literacy.

In conclusion, video games afford literacy opportunities in a multimodal environment for players to interpret meanings built up through a range of modalities including images, texts, symbols, interactions, abstract designs, and sound (Gee, 2003). In other words, traditional literacy with a focus on reading and writing is moved from print to a multimodal gaming environment. As discussed above, Gee's work on game literacy has sparked a proliferation of other work on exploring gaming in learning. Csikszentihalyi and his colleagues (1996) stress "adolescence is a period when young people are learning the patterns of participation in society" (as cited in Shaffer, 2006, p. 131). In accounting for adolescents' motivation in playing games, Shaffer (2006) uses "efficacy" to represent "the things they can do in the world and the sense of their own power that comes from being able to make things happen" (p. 131). Indeed, video games provide a platform for adolescents to realize their "efficacy" while they are being voluntarily involved in a variety of literacy practices.

Literacy Engagement

The concept "literacy engagement" advocated by Guthrie (2004) plays a prominent role in shaping research on literacy education. Guthrie (2004) notes the

universal observation that high engagement associates with high achievement, and, conversely, low engagement with low achievement. Prensky's (2005) work, *Engage me or enrage me: What today's learners demand*, describes the challenge of engaging students to learn. He delineates three kinds of students in today's classrooms: self-motivated students, students who go through the motions, and those who "tune us out" (p. 60). The first group of students indicates those who enjoy school learning with intrinsic motivations. The second group of students may not feel what they learn is relevant, yet they know it is important for their future. In other words, they have extrinsic motivations from their realistic perspectives. The third group, actually, poses the biggest challenge to teachers, educators, and parents, because they believe that "school is totally devoid of interest and totally irrelevant to their life" (p. 60).

To analyze literacy engagement theoretically, Guthrie (2004) proposes four dimensions are embedded in the term engagement: first, time on task suggests "paying attention to text, concentrating on meaning, and sustaining cognitive effort" (Guthrie, 2004, p. 3); second, affect implies enthusiasm, liking and enjoyment; third, cognitive qualities of the reader signifies conceptual learning during reading or building new understandings based on existing knowledge (Guthrie & Anderson, 1999); and the fourth dimension is activity-based, indicating the amount and diversity of students' reading in and out of school. Furthermore, engaged reading is a cognitive, motivational, and social interactive behavior. An engaged reader uses

strategies such as questioning and comprehending and is capable of being involved in social interactions such as discussing their reading experiences with friends.

The most consistent and salient finding in research on literacy engagement is that there is a close relationship between engagement and academic achievement. Guthrie (2004) believes that the “Matthew effect” (Cunningham & Stanovich, 1991) exists between engagement and achievement, which indicates that the two are mutually causal: “locked in a spiral, they grow together” (Guthrie, 2004, p. 6). Reciprocations of engagement and achievement in reading suggest both of the two aspects need to be fostered in school. Otherwise, “[a] neglect of one is a neglect of both” (Guthrie, 2004, p.6). In school, reading test scores become the end of schooling and reading activities in the classroom are the means to test success. In accordance with Guthrie (2002), the extent that teachers provide specific lessons relevant to the surface structures of tests can account for only 10 percent of the variance in test scores. It means reading lessons may help a few children with a small portion of their test scores but have most children left behind. Guthrie (2004) believes that real engaged reading should function as means and end simultaneously, that is, while engagement is the objective of reading activities, engaged reading should be a pathway to achievement.

The recognition that a correlation exists between engagement and literacy achievement has contributed to a vast number of research on students’ engagement. Technology, such as educational software (Bangert-Drownsb& Pyke, 2001), movies, and Web blog has been used in the classroom. Teaching approaches include

electronic portfolios (Barrett, 2007), readers theatre (Worthy & Prater, 2002), student-teacher shared inquiry (Thomas & Oldfather, 1996), student inquiry project (Fairbanks, 2000), computer-supported inquiry (Järvelä, Veermans, & Leinonen, P., 2008), culturally responsive instruction (Au, 2001), and project-based learning through constructivist approach (Ruddell, 2000; Windschitl, 1999), to name just a few. One well-known instructional model is concept-oriented reading instruction (CORI) (Anderson & Guthrie, 1996; Guthrie, 1997), which was developed at National Reading Research Center (NRRC). In this instructional framework, seven principles are emphasized to establish engaging classroom context, including real-world observation, conceptual themes, self-directed learning, strategy instruction, social collaboration, self-expression, and coherence in the curriculum. Also, quasi experiments have shown that CORI instruction, compared to traditional instruction, increased reading comprehension and reading motivation (Guthrie, Meter, McCann, Anderson, & Alao, 1996).

Motivation vs. Engagement

A best known interpretation of engagement in general meaning is Dewey's (1910, 1929, 1938) notion of "reflective inquiry", in which three stages of activities occur: (1) identifying problems; (2) studying problems through active engagement; and (3) making conclusions as problems are solved, which is referred to as an "outcome" (as cited in Mosenthal, 1999, p. 2-4). While Guthrie's conception of literacy engagement underscores the essential elements, Dewey's notion draws our attention to engagement as a dynamic process. The common base of the two views

is that cognitive procedures contribute to one's engagement. At this point, "engagement" is different from "motivation," since engagement is more enriched than temporary excitement (Mosenthal, 1999, p. 5). Despite that the two terms "motivation" and "engagement" are often used interchangeably in literature, it is important to realize the fundamental differences between them.

According to Gambrell (2001), motivation indicates "what moves people to put forth effort" (p.130). Namely, motivation is the driving force that prompts people to do something voluntarily. If "[m]otivation deals with the *whys* of behavior" (Wigfield, 1997, p. 14), engagement is concerned with "hows" of behavior. In addition, while addressing a pedagogy of multiliteracies, the New London Group (1996) emphasized the motivation in learning, stating "people do not learn anything unless they are motivated and believe they will be able to use and function with what they are learning some way that is in their interest" (Situated Practices, ¶ 2). Though "interest" and "involvement" are another two constructs when it comes to engagement, the term "engagement" is believed to be "arguably the most widely used in current reading research literature" (Schallert & Reed, 1997, p. 69).

In the process of engaged reading, extrinsic incentives such as awards may play a role. However, intrinsic motivation, namely, "curiosity, involvement, preference for challenge, and desire to read" (Guthrie, 2004, p.4), is indispensable. Guthrie (2001) calls those "who are intrinsically motivated to read for knowledge and enjoyment" as "engaged readers" (The Importance of Engagement, ¶ 1). Engaged readers are motivated, strategic, knowledgeable, and socially interactive (Guthrie,

McGough, Bennett, & Rice, 1996). Engagement encompasses both one's motivation and competence in literacy activities, which is well illustrated as follows:

> If motivation is treated as secondary to the acquisition of basic reading skills, we risk creating classrooms filled with children who can read but choose not to. On the other hand, if motivation is the only focus, we risk that children may love to read but cannot (Baker, Dreher, & Guthrie, 2000, p. 1).

Motivation is "inherent" in engagement and engaged reading involves more than motivation (Baker, Dreher, & Guthrie, 2000). In Zhang's (2001) words, "[m]otivation serves as a trigger for engaged reading to transpire and sustain" (p. 5). Likewise, Mosenthal (1999) argues what exists in reading engagement as an integral part is "[a] fusion of motivation and cognition, of skill and will, of interest and thought" (p. 4). Engaged readers must be motivated but motivated readers may not turn out to be engaged. In a word, motivation is a prerequisite of engagement or being motivated is an essential characteristic of engaged readers.

Behind School Disengagement: The New Digital Divide

Since students' engagement is a good predictor of children's long-term academic achievement (Skinner, Connell, & Zimmer-Gembeck, 1998), parents and teachers long to see students engaged in learning. However, this involvement often occurs outside of school, rather than in school. In such a technology-saturated world, the disparity between students' in and out of school literacy becomes tied to rapidly emerging technologies. Buckingham (2007) calls this disconnection "new digital divide" (Buckingham, 2007) in regard to people's acceptability of digital literacy rather than the access to digital and information technology. Though

teachers are not likely to have adequate knowledge about students' literate lives outside of school, they may perceive that students lead "double lives" (Williams, 2005) in some ways. Williams (2005) described an often seen scene in the classroom that the teacher finds their students are far more capable than herself/himself in fixing a computer or software problem they encounter in some computer-related projects. Unfortunately, teachable moments slip away when teachers tend to ignore further questioning "how the students became technologically savvy, what ways they might be using computer technology in their literacy practices outside of school, and how such practices shape their sense of themselves as readers and writers" (Williams, 2005, p. 702). Baker (2005) points out that teacher may discover some unmotivated readers in the classroom are "in fact simply unmotivated for school learning" (p.59). Related findings in Carr's research (2002) show while students lose interest in school, they may not be turned off to reading in general. Students may read magazines, newsletters, hypertext, and many other forms of information. Unfortunately, Ivey (1999) find this type of reading is not always valued at school (as cited in Carr, 2002).

Phelps (2004) presented a review of 55 research studies on adolescent literacy published in peer-reviewed journals between 1994 and early 2005. All the research articles are relevant to students "who are often marginalized in secondary content area classes because of ethnicity, language, economic disadvantage, or learning difficulties" (Phelps, 2004, p.1). The findings reflect the shifting trend in adolescent literacy from cognitive strategies to multiple variables in the literacy development of

adolescents. With regard to adolescent development in and out of school, Phelps (2004) found that adolescents varied widely in their reading preferences and they were also quite diverse in their literacy abilities. Many studies suggested that there was a big gap between in-school literacy and out-of-school literacy, and that school might not be "friendly to adolescents' identity or literacy development" (Phelps, 2004, p. 4). The research review implies more spaces should be allowed in school for adolescents to explore multiple literacies and receive feedback from their peers and adults.

Some researchers have attempted to critique "at-riskness" defined in a traditional sense. They reexamine those "at-risk" learners' literate competencies from a perspective of "new media literacies or 'media literacies in new times'" (O'Brien, 2001, ¶ 2). O' Brien (2001) advocates we should not simply label those students who are challenged with literacy tasks in school as "disabled, minimally literate, aliterate," "struggling" students, or "at-risk" learners in the base of our conventional definition of "literacy." Drawing on Semali and Pailliotet's (1999) point of "intermediality" as "the ability to work with diverse symbol systems in an active way where meanings are received and produced" (as cited in O'Brien, 2001, Intermediality, ¶ 1), O'Brien (2001) found that the "at-risk" adolescents he worked with were actually competent in "mediashpere" to construct their worlds and others'. For example, one boy in ninth grade, whose reading level was assessed as seven years below the state standard, crafted a multimedia documentary about a heavy metal artist. In that documentary, he used images with his own running narrative, an

MTV interview, and texts from various sources. The findings (O'Brien, 2001) suggest that the restrictive view of literacy that privileges print impede our insights into students' rich and complex literacy world.

The inconsistency of "at-riskness" in traditional literacy and new literacies, particularly, can be accounted for by the disconnections between students' in and out of school lives depicted in an interesting analogy made by Prensky (2005):

> In school, though kids don't have the "don't buy" option. Rather than being empowered to choose what they want ("Two hundred channels! Products made just for you!") and to see what interests them ("Log on! The entire world is at your fingertips!") and to create their own personalized identity ("Download your own ring tone! Fill you iPod with precisely the music you want!") --- as they are in the rest of their lives --- in school, they must eat what they are served (¶ 14).

While students learn the "stale, bland, and almost entirely stuff from the past" (¶ 15) in school, they are immersed in completely another technology-rich world with downloading songs, playing video games, making movies, and doing the extreme sports. It is "yesterday's education for tomorrow's kids" (Prensky, 2005, p. 62) that places our kids "at risk." In a similar vein, Squire and Jan (2007) state that "schools continue to operate with a cultural logic that fails to leverage the technological changes that increasingly influence children's lives" (as cited in Dodge et al., 2008, p. 226).

The disconnection between students' literate lives at home and in school has become enlarged with the development of technology. A decade ago, Wells and Blendinger (1998) conducted a two-year study on how seventy five middle school students spent their time outside of school. The findings showed that children spent

too much time on watching TV but too little time reading. On average, 42 percent of their time was spent on “screen-oriented activities” (Blendinger, 1998, p. 8), which included television, video, and video games. However, both teachers and students sometimes fail to connect the essence of out-of-school literacy with that of school literacy. Upon examining students’ technology literacy outside of school, Willams (2005) found that one high school student did not perceive his online role-playing games and email experience was connected to reading and writing at all, though the researcher detected that the student spent much time reading and writing online through these activities. Likewise, Jolley (2008) noticed that many students who liked playing games had no clue about game-based texts. She found that one boy in her remedial reading class thought he had no background knowledge about science fiction though he played the popular video game *Halo*. The boy made a crystal-clear distinction between his cool games and schoolwork and did not see the connections. Obviously, comparing with official school learning, students are unlikely to recognize their unofficial reading and writing activities related to playing (Sarsar, 2008; Wilhelm & Smith, 2001)

In recent years, researchers latch on to the topic of gaming in education. They find that parents’ and teachers’ attitudes towards gaming also play a critical role in adolescents’ gaming experience. In *Gaming lives in the twenty-first century: Literate connections* (Selfe & Hawisher, 2007), it is shown that parents place a high value on conventional literacy in spite of their educational levels. The gamers learn print literacy a lot at home, which is also the main focus of their school education.

However, many parents and teachers think playing computer games is “a waste of time” (Gee, 2003, p. 19). For parents and teachers, there is a rupture between what students are good at and what they “should” be good at. Most parents who grew up in a world of traditional literacy still fail to see the complex ways in which computer games are embedded in certain learning principles (Gee, 2003). Likewise, Keller et al. (2007) found all five participants’ families encouraged reading and provided strong support for their conventional alphabetic literacies. Though all five families enabled access to computers, nearly all the parents viewed games as entertainment rather than education: they might distinguish well between educational and noneducational software; they might believe the time spent on computer was less valuable than those on reading books; they might ban games unless they believed that some could help their children gain computer skills (Keller et al., 2007). Even though computer use is promoted by parents, it is only for academic uses but not for game playing. Digital literacy is of value under the situation that the computer is used for “formal learning” not for games. This accounts for students’ reluctance to claim “ownership of literacy” (Au, 2005) involved in unofficial literacy practices.

Altogether, adolescents acquire a lot of technological and digital literacy by immersing in a digital information saturated world. However, the new literacies are still marginal in most parents’ eyes and in school settings. The challenging exploration and unexpected excitement embedded in the digital literacy attract adolescents but give people the impression that adolescents always waste their time without dedication to literacy. In this situation, surrounded by opponent voices

compared with sustaining voices for “learned” print literacy, adolescents acquire much more digital literacy by themselves than from “technologically impoverished schools”(Gee, 2006, p. x). The adolescents face a disconnection between print literacy in school and digital literacy outside of school. Furthermore, a divide exists between parents and teachers who are “digital immigrants” (Prensky, 2001) and adolescents who are “digital natives” (Prensky, 2001). Therefore, the notion of “new digital divide” (Buckingham, 2007) is reshaped by asking the divide between “whom” in addition to “where.”

Interface between Literacy Engagement and Game Literacy

The eminent scholar Guthrie (2004) has cautioned us the crisis in today’s schools is that too many children are disengaged from literacy. At this point, Guthrie refers to only children’s academic literacy in school setting, which is mainly conveyed through the context of print. As pointed out by Williams (2005), many teachers keep putting the question of whether students are effective readers or writers on the base of conventional academic literacy practices. The term “literacy engagement” is grounded in the traditional academic literacy, namely, reading and writing in the medium of print.

Undoubtedly, the predominance of school-based tasks and students’ lack of motivation in learning deserves attention to their engagement in conventional literacy. It would be argued, however, students have spent so much time and energy on out-of-school activities such as video games and thus, why teachers should bother concerning about their engagement in “playing.” Many ask whether it would

be better if the excessive amount of their "playing" time were spent on school-related print literacy activities. Before answering the question, it is necessary to be aware of two points. First, we doubt students would really choose to do school learning tasks as voluntarily as they do in out-of-school activities. Second, in discussing students' computer literacies, Williams (2005) argues that students' ease in engaging in computer-mediated activities is not necessarily brought about by the practices being easy. So, it is still worth exploring the literacy opportunities involved in gaming to enhance students' academic learning.

To build an instructional context fostering engagement process and reading outcomes, Guthrie (2001) and his colleagues created an engagement model of reading development (see Figure 2-1).

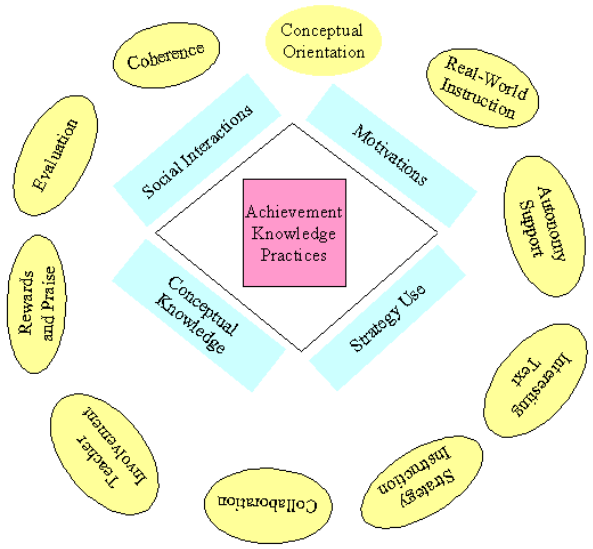


Figure 2-1. The engagement model of reading development.
Note: From "Contexts for engagement and motivation in reading," by J. T. Guthrie, 2001, Reading Online, 4 (8).

As illustrated above, this model stresses instructional significance in fostering an engaging classroom. The model consists of three parts: a core in the shape of

square, an inner diamond, and an outer ring. Surrounding the core of "achievement, knowledge, and reading practices," the inner diamond indicates one's engagement process: motivation, strategy use, conceptual knowledge, and social interaction. The outer ring is composed of ten elements that the teacher should practice in the classroom: learning and knowledge goals, real-world interaction, autonomy support, interesting texts for instruction, strategy instruction, collaboration support, praise and rewards, evaluation, teacher involvement, and coherence of instructional processes.

Though the paradigm of literacy engagement derives from research in classroom context and print, it provides a framework to which I can refer examining students' gaming experience. For example, some intersections between literacy engagement and game literacy include motivation, social interactions, conceptual knowledge, strategy use, collaboration, and autonomy. First, as Guthrie (1997) states, motivation is contextual and students are motivated in some contexts but not in others. This might be a situation in which video games really appeal to some students who are not engaged with book reading. Second, social interactions in gaming can be well demonstrated in the evolvement of "third places" from the real world (Oldeburg, 1991) to those in the virtual world (Bruckman, 1998). More than a decade ago, Oldenburg's (1991) used "third places" to indicate children's informal public spaces such as coffee houses other than family and school communities. Today, Dodge et al. (2008) states that online environments like online video games as "third places" also afford the sense of place and community. In addition, some elements in the model of literacy engagement like conceptual knowledge, strategy

use, collaboration, and autonomy overlap with learning principles in gaming (Gee, 2007).

With the expansion of literacy brought by fast developing technology, literacy engagement confined to the conventional literacy needs rethinking when we look at students' multiliterate activities. Drawing from two separate studies about adolescents' and adults' literate lives, Hagood, Stevens, and Reinking (2002) point out that adolescents grow up in a world "mediated by digital texts" and literacy to them is "multimodal, and rather than receive information from static texts" (p. 74). What is missing in the literacy engagement model above is multimodality as a salient feature in this new media age (Kress, 2003). As Turner and Paris (2005) claim that motivation exists not only in the child but in the interaction between students and their literacy environment, video games are involved in multimodal meaning-making through hypertexts, images, and even audio communication in online games. Besides, gamers may have literacy practices while playing games online or other game-related activities when they are off line. Multimodal environment is constructed when literacy activities across modes (i.e. writing and image) and media (i.e., book and screen). Therefore, in studying literacy practices occurring in gaming, a multimodal literacy environment should be considered besides the basic elements of literacy engagement proposed by Guthrie and his colleagues.

Journet (2007) contends viewing video games in a positive light does not mean advocacy for teaching students to play or write video games in composition and literature classes. Actually, it is crucial to investigate the principles embedded in

games and create more game-like learning environments. To optimize students' learning environment with attention to their virtual worlds in video games, more exhaustive research is needed to expand our understanding of students' engagement in gaming. Pivotal to any learning opportunities involved in gaming is the need to recognize the intersection of literacy engagement and game literacy, which serves as a theoretical foundation for my research.

L2 Literacy and Gaming

Given a large and rapidly growing number of students who do not speak English as their first language (L1), as well as their low levels of literacy attainment (August, 2005), ELLs' literacy development has increasingly drawn educators' attention, as demonstrated by the establishment of the National Literacy Panel on Language-Minority Children and Youth in 2002. The panel examined 970 studies on language minority children between the ages of 3 and 18. Their report, released in 2006, revealed that ELLs face more challenges than their English speaking peers in literacy acquisition, which is involved in the interplay between L1 literacy and L2 literacy. In this report by the National Literacy Panel, while a good deal is known about ELLs' literacy skills in terms of school literacy, there is a dearth of research dealing with this student population's out-of-school-literacy, especially their literacy practices influenced by technological innovations. Though some studies elsewhere address ELLs' home literacy and community literacy with an effort to explore their "funds of knowledge" (Coady, 2009; Heath, 1983; Moll, Amanti, Neff, &González, 1992; Talyor & Dorsey-Gaines, 1988), the absence of research on the out-of-school

literacy activities initiated by ELLs themselves may hinder us from fully understanding this group of culturally and socially marginalized students. After all, adolescent ELLs share the same interests in new literacies and are also engaged in the same virtual world as their "mainstream" English speaking counterparts. Walking into ELLs' gaming world may open up new avenues for us to bridge their in-school and out-of-school literacies.

L2 Acquisition Theories and Gaming

In order to understand L2 literacy practices through gaming, I will address both theoretical and research perspectives on L2 literacy acquisition and video games. To elaborate on how L2 literacy opportunities are embedded in video games, it is necessary to revisit second language acquisition theories to examine how video games address ELLs' linguistic needs from a theoretical base. Thus, theories by two leading second language researchers, Krashen and Cummins, are presented to look at how games facilitate language learning. First, Krashen's comprehensible input hypothesis can be applied to understanding contextualized gaming environments optimize language learning opportunities (García-Carbonell, Rising, Montero, & Watts, 2001). Second, according to Krashen's affective filter hypothesis, a lower affective filter facilitates language learning, which is one of the positive qualities of gaming in second language acquisition (García-Carbonell et al., 2001). Third, Cummins' four quadrants are demonstrated to analyze literacy opportunities.

Comprehensible input hypothesis

The Comprehensible input hypothesis proposed by Krashen (1981) contends that in order for language acquisition to occur, the language input should be comprehensible to language learners in many forms, such as visual aids, adapted texts, and the use of less complex language. In other words, language learners "understand messages with 'unacquired' grammar with the help of context" (Zainuddin & Yahya, 2006, p. 148). Language learners make progress when they are exposed to the language input (i) one step beyond their current level of proficiency (i+1). In video games, visuals, a form of comprehensible input, provide language learners with much aid in understanding the context. Also, as language learners encounter new vocabulary or other linguistic phenomena in video games, learning occurs if the comprehensible input is at the level of "i+1."

Affective filter hypothesis

In Krashen's (1981) affective filter hypothesis, emotional variables such as motivation, self-confidence, and anxiety play a role in language acquisition. A language learner with high motivation, high self-confidence, and lower anxiety will be more likely to be successful in language acquisition. On the contrary, if a language learner does not have the aforementioned positive emotional variables, the learner's affective filter will create a "mental block"; thus, the learner fails to perceive the comprehensible input and no language acquisition takes place. In a risk-free gaming environment, affective filter is lower when language learners have less anxiety but higher motivation.

Cummins' four quadrants

Cummins' four quadrants provide implications for language teachers to integrate video games in teaching and learning (Cummins, 1981). In terms of context clues and cognitive demands, Cummins' four quadrants (Cummins, 1981) identify four areas of learning tasks associated with second language proficiency ranging from Basic Interpersonal Communicative Skills (BICS) to Cognitive Academic Language Proficiency (CALP). The conceptions of BICS and CALP distinguish social language from academic language (Zainuddin & Yahya, 2006). Social language is context-embedded conversational language in our daily lives, while academic language is decontextualized school-based learning language.

In Cummins' four quadrants(see Figure 2-2), the vertical continuum represents communicative tasks and activities ranging from cognitively undemanding to cognitively demanding, whereas the horizontal continuum illustrates communicative tasks and activities from context embedded to context reduced. Accordingly, Quadrant I refers to cognitive undemanding tasks with high contextual clues, such as following physical directions. Quadrant II indicates cognitively demanding and context-embedded learning tasks, for example, reading texts with the help of visuals. Gaming environments invite language learners to either Quadrant I or Quadrant II, which depends on if higher order thinking skills are involved (Rice, 2007). To foster language learners' CALP, video games per se may not be sufficient. Actually, this is related to a question posed by deHaan (2003) as to whether language acquired through video games can be used when the language is removed from the context of

the game. As Cruz (2007) suggested, the teacher can create academic learning activities such as writing journals and retelling stories after they play games.

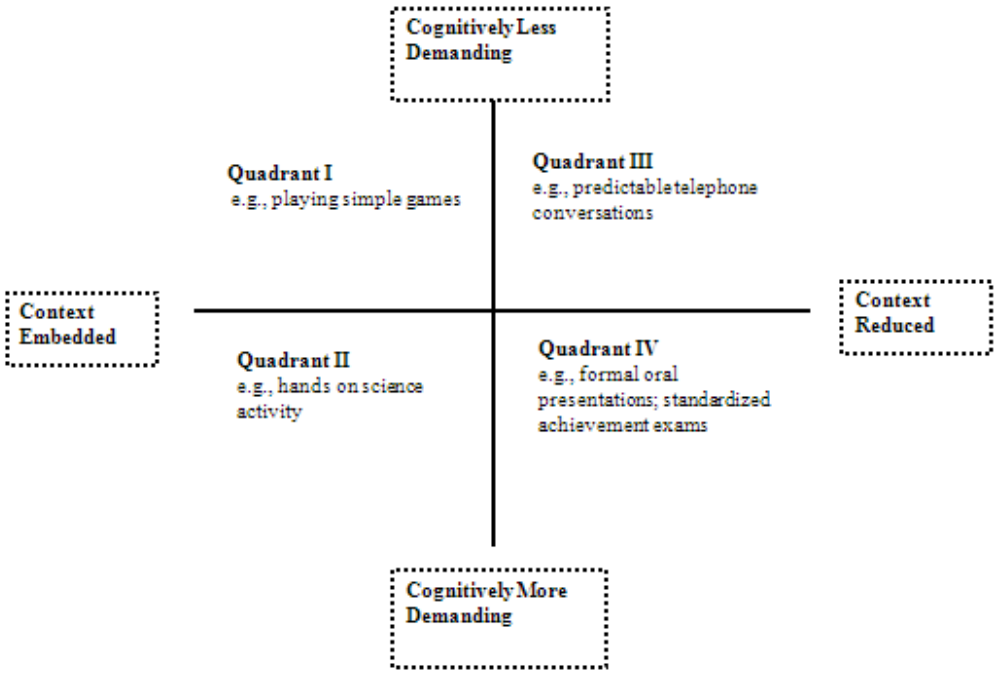


Figure 2-2. Cummins' four quadrants (adapted from Cummins, 1981).

Language Learning Environments Embedded in Gaming

The L2 language acquisition theories mentioned above account for the potential of gaming for L2 learning. A further question would be in what ways video games foster L2 learning through the lens of learning principles in gaming (Gee, 2003). Three aspects below pinpoint the benefits of gaming environments that facilitate language learning.

Situated meanings, "just-in-time" and "on-demand"

Words have different situated meanings in different contexts and games always situate the meanings of words in terms of the actions, images, and dialogues that they relate to and show how they vary across different actions, images, and

dialogues (Gee, 2005). Additionally, good games give information "on-demand" and "just-in-time", not out of the contexts of actual use or apart from people's purposes and goals (Gee, 2003; 2004; 2005). Players make meaning of the words and sentences within their contexts in which they will apply the knowledge obtained through the process of meaning making. Contextualization of words and sentences to understand them is very important for language acquisition. Gee (2003) emphasizes that meaning is always situated: "The meaning of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in embodied experience. Meanings are not general or decontextualized" (p. 108). For this reason, video games optimize language learning opportunities by enhancing word associations through meaning making processes in a contextualized environment. This view is also shared by other researchers. For example, Decarrico (2001) advocates rich cultural context for students' multiple exposures in learning vocabulary (as cited in Broberg, 2004). In addition, deHaan (2005) found the research subject who learned Japanese as a foreign language learned a lot of vocabulary from contextual clues while playing a Japanese baseball game.

Instant interaction

The feature of instant interaction can be supplementary to "just-in- time" and "on-demand." Pandey, Pandey, and Shreshtha (2007) maintain that encoding and decoding is interactive in reading gaming texts. While the player receives and then accepts the encoded information in games, she/he also "decodes" secondary information while constructing meanings. So, the player of gaming text is no longer

a passive message sender or receiver. In fact, there is always interaction in a cycle while a player is engaged in reading and acting. Foreman et al. (2004) maintain using interactive games can positively impact on the mode of learning (as cited in Yip & Kwan's, 2006). Besides, Wood (2001) advocates game-like formats as an effective tool to capture learners' attention.

Repetition

According to behaviorist theory in language acquisition, stimulus, response, and reinforcement are the basic elements of learning (Peregoy & Boyle, 2005). Immediate reinforcement strengthens learning. Like some "drill and skill" practice in some language software, video games may contain some key words repeated in a certain context, which provides the language learner with learning moments while playing. One linguistic phenomenon, "phonological loop" (Baddeley et al., 1998, p.158), is to explain the reader's ability to repeat new words as a part of an interactive cycle (Gathercole, Willis, Emslie, & Baddeley, 1991). Birch (2007) emphasizes that repetition is one of the useful word learning strategies because phonological loop work in that situation. This claim is consistent with Herselman's (2000) finding that ESL students' language proficiency was improved by playing drill and practice games (Herselman, 2000). Also, in deHaan's study (2005), the subject believed hearing language repeatedly was effective for him to learn Japanese while playing a Japanese baseball game.

To summarize, the learning principles presented above have insightful implications for language acquisition. Video games provide language learners with a

highly contextualized environment in which they can interact with animated agents and receiving positive reinforcement in an engaging way.

Current Gaming Research on L2 Literacy

Weighted against the extensive studies conducted on video games in education as a whole (Garris, Ahlers & Driskell, 2002; Margolis, Nussbaum, Rodriguez, & Rosas, 2006; Millians, 1999; Rosas et al., 2003; Shaffer, Squire, Halverson, & Gee, 2004; Squire, 2006), only a paucity of published work is especially dedicated to gaming in language acquisition. Like the research on other emerging technologies, video gaming is a new topic, and researchers seek to find the potential of its application to language learning. Video games hold the promise and potential for second language learning. Most studies on this topic analyze the features of video games which could be applied to language learning. Several studies look at game design tools and principles related to language acquisition (Morton & Jack, 2005; Pasero & Sabatier, 1998; Johnson, Vihjalmsson, & Marsella, 2005). For example, Zhao and Lai (2009) elaborate on their conceptualization on designing *Zon*, a MMORPG for Chinese as foreign language learning. They identify three main challenges in foreign language education: the lack of socially communicative communities, the lack of opportunities for using the target language for real-life purposes, and the lack of students' maintaining motivation. By analyzing the immersive language learning environment embedded in MMORPGs, Zhao and Lai (2009) argue that MMORPGs solve the main challenges in foreign language education. Though this article addresses foreign language learning, the implications

are also applied to L2 language learning. To L2 learners who play MMORPGs, their opportunities of "learning the language in use and for use" (Zhao & Lai, 2009, p. 407) are enriched in a virtual world and in a real world as well.

Some studies focus on language learners' social and cultural communication involved in gaming. Selfe et al. (2007) find communication in gaming environments is increasingly multimodal and effective cross linguistic and cultural boundaries. Gee (2003a) calls the people associated with a given semiotic domain an "affinity group" (p. 27). In an affinity group, people see others more or less as insiders (Gee, 2003a). People in an affinity group recognize others as more or less "insiders" to the group. Gaming environments provide a setting for literacy practices involved in communication and exchanging information with those in an affinity group "sharing goals, values, understanding, knowledge and expertise." (Selfe et al., 2007, p. 31). In the study by Selfe et al. (2007), some participants say they learn other cultures and even languages by communicating and collaborating with other affinity group members in the same semiotic domain. For instance, one boy mentioned that while collaborating with his clan in playing *Counter-Strike* he could "learn another language, or pick up on dialects or ethnic backgrounds, or recent events in the news" (Selfe et al., 2007, p. 25).

Smith and Deitsch (2007) present an interesting topic of "cultural model" in game localization. When one gamer reflected on her gaming experience, she mentioned that though she was very interested in Japanese games but she did not realize those were Japanese games, which is referred to as "cultural odorlessness"

(Smith & Deitsch, 2007, p. 61) by the authors. The phenomenon is a result of "global localization" or "globalism" in game marketing (Smith & Deitsch, p. 61). However, with knowing more about the culture by learning the language in Japan and being involved a project of "localization" in games, the gamer began to detect the cultural models in gaming, which are, in Gee's words, "images, story lines, principles, or metaphors that capture what a particular group finds 'normal' or 'typical' regard to a given phenomenon" (Gee, 2003a, p. 143). The notion of cultural models and the telling example provide valuable insights into gamers' cross-cultural experience in gaming. Moreover, the life stories of two young men from Nepal can also illustrate how computer games have positive influence on their cultural experience (Pandey et al., 2007). Cultural elements embedded in the American computer games exposed the two young men in a virtual world different from their own real world either in culture or in language. The diverse roles and activities they played in computer games were also helpful to prepare them for future cross-cultural experience in their real lives. When they came to the United States for further study, they benefited from their game experience for better cultural adaptation when they found it was easy to establish special rapport with those American friends who played the same games. All the examples mentioned above demonstrate the relation between gaming and larger sociocultural and geopolitical factors, which resonates with Gee's argument (2007b) that literacy is happening beyond people's minds and in a world of social, cultural, and institutional activities.

A few studies focus on the language learner's use of video games (deHaan, 2005; Herselman & Technikon, 2000; Yip & Kwan, 2006), particularly in reference to classroom application. In the limited volumes of literature on language acquisition through video games, some positive results have been found in certain linguistic domains such as speaking (Morton & Jack, 2005), vocabulary learning (Broberg, 2004; Yip & Kwan, 2006), listening and character recognition (deHaan, 2005), and computer-mediated communication (Shin, 2006).

Of the few studies addressing language learners' use of video games, Broberg's (2004) study is a better research-based study presenting an explicit research design. In this study focusing on ESL students' vocabulary learning, a simulation game, *The Sims* was implemented in the ESL classroom. Eighteen intermediate adult ESL learners participated in the five-week study by completing tasking using *The Sims.* A pre-test was implemented to determine participants' vocabulary levels and place students into groups at relatively the same proficiency levels. A post-test which was identical in content to the pre-test was given to the participants with the individual test items randomly rearranged. A pre-project survey was to understand participants' familiarity and attitudes towards technology and prior experience with technology, including specific investigation into their prior usage of *The Sims*. A post-project survey was given for participants to reflect on their entire experience with *The Sims* in the study. The results indicated a significant increase in the participants' vocabulary acquisition.

As noted, most of the literature in this field was published in recent years, which implies the research on language learning through gaming is still a newly emerging topic. There are two basic questions in the existing literature about language acquisition through video games. Researchers endeavor to find what good video games are for language learning and how video games can be implemented in the classroom.

What are good video games for language learning?

Insofar as language acquisition through video games, many would ask what games are appropriate for language learners. Several researchers have expressed different ideas to the question. Bryant (2006) states *WoW* and other MMORPGs can foster a "targeted, social, and cooperative approach" toward language learning. Cruz (2007) thinks that role-playing games (RPGs) are the ideal genre for the ESL classroom because players are exposed to a large amount of in-game dialogues and written texts. Purushotma (2005) recommends *The Sims*, which provides practical vocabulary and rich content. As for massively multiplayer online games (MMOGs), he adds that *The Sims Online* has tremendous potential in language learning due to the communication opportunities between L1 speakers and L2 speakers. deHaan (2003), another active researcher in this field, specifies a few games for different purposes. He stresses *The Sims* is especially useful for beginning and intermediate language learners to learn real-life vocabulary and RPGs for advanced language learners. Also, deHaan (2005) expresses a preference for sports and simulation games because more scaffolding is provided in an obvious context. In a one-month

study, deHaan (2005) investigated how a Japanese baseball video game helped one intermediate Japanese-as-a-foreign-language student improve his listening and kanji character recognition. Admittedly, it is crucial to consider who play the video games for what purpose. Hence, there is no "one size fits all" in terms of video games for language acquisition.

How can video games be used in classroom instruction?

To date, little research has been carried out to look at the use of video games in classrooms. Even less is about video games for language classroom use. One well-known study of using the video games in education is made by Squire (2005), who introduced *Civilization III* into curricula to teach students history and geography. When it comes to language classrooms, educational research on video games practice is slim (Cruz, 2007; Herselman, 2000; Yip & Kwan, 2006) and a few others partially address the issue in their studies (deHaan, 2005; Purushotma, 2005). Cruz's (2007) article is more like a reflection on using computer games in ESL classrooms, pointing out simply playing games cannot produce bilingualism, and it is necessary for teachers to design activities that encourage students to talk about their gaming experience. Cruz (2007) proposes that some language activities such as reflective journals, debates, and oral presentations could be used after language learners play the games in class. Purushotma (2005) emphasizes that it is necessary to direct students' attention to key vocabulary in playing MMOGs. Yip and Kwan (2006) assert that online vocabulary games are effective as a "warm-up," yet caution that teachers must monitor students' learning if such games are used as a

long-term learning tool. As for time arrangement for playing video games, Cruz (2007) suggests that students play a language learning game weekly during instructional time or recess. deHaan (2005) proposes a "game day" or class party to invite students to play simultaneously. Furthermore, deHaan (2005) adds that games can be encouraged in language labs or in home settings.

What are the gaps in current research?

Based on current research on gaming research related to L2 literacy, I find some gaps which need to be filled. There are a few implications for further research in this field as a result of what is and is not known about using video games in language learning.

Lack of research-based studies, especially qualitative studies. Few research-based studies about computer games and language learning have existed so far (Broberg, 2004; deHaan, 2005; Herselman, 2000; Yip & Kwan, 2006). Given the lack of qualitative studies in computer-assisted language learning (CALL) (Liu, Moore, Graham, & Lee, 2003), it is not surprising to find no pure qualitative studies are conducted in this field. Some studies used qualitative methods to supplement their quantitative analysis. Yip and Kwan (2006) mixed a quasi-experiment, survey questionnaires and interviews in their study. Herselman (2000) used both quantitative and qualitative research methods in collecting data. Broberg (2004) held a post-project informal discussion for the participants to reflect on their gaming experience. Also, most of the studies were conducted in a short period of time ranging from one month to nine weeks. Besides the question of if video games are

effective for language learning, more long-termed and in-depth qualitative studies are desired to know how video games engage language learners, how learning occurs through video games, and what interactions occur when gaming experience acquired outside of school are brought into school culture (Squire & Barab, 2004).

With growing numbers of quantitative studies on new media and related practices among youth in the U.S. (Ito et al., 2008), qualitative studies in this field are also necessary to investigate what games are doing *for* us rather than merely ask what they are doing *to* us (Williams, 2007). More than two decades ago, Salomon and Gardner (1986) also gave us similar suggestions in their research on computer applications in education. They advised researchers should avoid asking "naïve questions" like "whether computers teach better than so putatively comparable medium" (p.13), since repetitive research on television has taught us that technology may not necessarily boost everyone's learning due to individual differences of ability, prior knowledge, and preferred learning strategy, to name just a few. Drawing on the work of Schramm, Lyle, and Parker (1961), Salomon and Gardner (1986) stated the lesson from previous television research is we should "[a]sk not what television (read: the computer) does to the children but rather what the children do with television (computers)" (p.16). Till today, this lesson is still relevant. With Salmon and Gardner's (1986) caveat that efforts should be made to understand in what ways the computer-based learning can better serve students' needs rather than simply repeat testing the effectiveness of computer use, more studies are needed to

understand in what conditions gaming can facilitate learning rather than simply testing whether playing online computer games is effective in one's learning.

Lack of exploration on reading and writing. The present studies of gaming and language learning focus on video games in a certain linguistic domain such as speaking (Morton & Jack, 2005), vocabulary learning (Broberg, 2004; Yip & Kwan, 2006), listening, and character recognition (deHaan, 2005). Though reading and writing are most often explored aspects in CALL (Liu et al., 2003), the existing research is short of exploration into reading and writing related to gaming. It is likely because reading comprehension is hard to gauge and writing involved in video games is casual writing rather than academically oriented writing.

Lack of investigation into cross-cultural experience and social interaction. As revealed by Selfe et al. (2007), communication in gaming environment is increasingly multimodal and effective across linguistic and cultural boundaries. In discussing gaming literacy, only a few examples about gamers' cross-cultural experience are presented in the book *Gaming lives in the twenty-first century* (Selfe & Hawisher, 2007), which unfold the recounting of some gamers' real literacy experience through gaming. Among the studies especially on language learning and gaming, few studies (Ang, Zaphiris, & Wilson, 2005) address social interaction opportunities beyond the learning activities. Therefore, further research on L2 learners' cross-cultural experience and social interaction in gaming is necessary to create accesses to understanding how video games can enhance

gamers' communicative competence and cultural knowledge besides language proficiency.

As presented above, though video gaming research in L2 literacy is an emerging topic, increasing studies have been conducted on L2 acquisition, particularly towards a classroom intervention. What remains unexamined, nevertheless, is an in-depth investigation of how ELLs are engaged in various L2 literacy practices through gaming outside of school.

World of Warcraft (WoW)

WoW is currently the world's largest massively multiplayer online role-playing game (MMORPG). Since *WoW* was launched in November 2004 by Blizzard Entertainment, it has grown to more than 11.5 million monthly subscribers (*World of Warcraft Reaches 11.5 Million Subscribers Worldwide*, 2008). *WoW* is set in a fictional 3D world called Azeroth and later extending to a further world named as Outland. *WoW* players design and control their avatars to explore locations, defeat creatures, and complete quests in order to obtain rewards, which will improve their equipment for more difficult quests. Players can complete quests given by non-player characters (NPCs) and interact with other players through chat messages or voice chat in synchronous time. Also, *WoW* invites players to socialize with others. Two types of groups, party and raid, exist in *WoW*. A party can have up to five characters and only one can be the leader. A raid can have parties of more than five and up to forty people. As opposed to Player vs Player (PvP), raiding commonly refers to a format

of Player vs. Environment (PvE), which means players compete against the predesigned game world rather than other players.

Rich text exists in the mix of fantasy, myth, heroic quests, and science-fiction based stories (Krzywinska, 2008; Sarsar, 2008) structured in narratives. *WoW* players are immersed in a multimodal environment consisting of written and oral language, images, symbols, and sounds. *WoW* proffers a locale for players from multilingual backgournds to communicate through English. Different from other multiplayer computer games, "human-to-human interaction through a simulated computer interface" (Lobel, 2006, p. 3) is a crucial feature in MMORPGs. Besides its text-based chat system, *WoW* is featured in "voice chat." That allows players to speak to each other while playing *WoW* (Moberly, 2008).

As Beavis (2002) states multiplayer computer games involve players in exploring the use and development of multimodal literacies, some studies have found literacy opportunities embedded in *WoW.* For example, Nardi and Harris (2006) discover that social activities in *WoW* through collaborative play provide rich learning opportunities. Similarly, Brignall and Valey (2007) claim that *WoW* fosters rich social environments in an online community, which they call "a new tribalism." Players can locate and interact with other players who share a common goal to form groups and subgroups or tribes. In accordance with Nardi, Ly and Harris (2007), *WoW* is a "richly 'chatful' environment" in which a zone of proximal development (ZPD) is shaped by peers who voluntarily teach others in persistent conversations. Moreover, *WoW* provides rich communication opportunities both within and outside

the game. For instance, guilds (in-game player associations), as one type of grouping practices in *WoW*, influence both players' in-game and out-of-game socializing as well. Tech entrepreneur and *World of Warcraft* player Joi Ito estimate fully 80 percent of the communication between members of his *WOW* guild takes place outside the game (Craig, 2006, ¶ 4). For language learners, Bryant (2006) concludes that *WoW* can provide an engaging language immersion environment. First, the social aspect of learning a language is fulfilled when players are involved in task-based activities which require social interaction and collaboration. Second, one primary advantage in *WoW* is the presence of native speakers. Because *WoW* creates different virtual worlds based on country, ELLs can enter the virtual world of *WoW* in the U.S. This presents ELLs "an authentic virtual reality" (Bryant, 2006) where they are naturally immersed in the English language.

Recently, academic attention has also been paid to transform the educational potential of *WoW* into practice at various levels of schooling. Fro instance, educator Constance Steinkuehler of the University of Wisconsin-Madison initiated an after school program for some adolescent boys to play *WoW*. She found that the eighth and ninth graders, who were identified as "at risk" and failing in literacy related classes, showed great interest in detailed and lengthy discussions about gaming and communicating on their message boards as well (*World of Warcraft as a Teaching Tool*, 2008).

Sarsar's study (2008) is worth mentioning since it is one of the few studies that investigate ESL students' gaming experience outside of school. Sarsar (2008)

investigated how a group of high school students in UAE were engaged with MMORPGs outside of school. By distributing 100 boys a questionnaire about their out-of-school technology-mediated literacy practices, Sarsar (2008) found that 91% of the participants played online games, the most appealing Internet activity. With a focus on *WoW*, Sasar (2008) discussed both the pros and cons that the students experienced in the game. Referring to Prensky's (2002) five levels of learning in video games, Sarsar (2008) analyzed "How", "What," "Why," and "When/Whether" levels of learning that occur in the participants' gaming experience in *WoW.* Sasar (2008) argued that only looking at the negative effects of video games should be replaced by inquiry about how best we can implement video games to help children learn what we want them to learn. In an attempt to realize "digital-game-based learning" (Prensky, 2001) for " 'high learning' through 'high engagement'"(Gibson, Aldrich, & Pensky, 2006), Sarsar (2008) suggests that parents play an important guiding role and game developers, with the help of educators, develop games satisfying students' learning needs. Above all, students' learning from video games and values of other new technologies should be embraced by an effective pedagogy. Though this is a research-based study, the article only presents an overview of learning opportunities rather than an in-depth analysis of the participants' learning processes. Despite the fact that Sarsar (2008) states that this study was approached from the perspective of an ESL teacher, there is not much discussion and implication concerning the participants' actual literacy practices in *WoW.*

WoW also receives research attention in college-level learning. Recognizing rich language learning experience rooted in *WoW*, Colby and Colby (2008) introduced *WoW* into a college writing class. Apart from *WoW*'s popularity, they states three primary reasons of selecting this online game for teaching writing: 1) *WoW* is an objective-based game which fosters emergent gameplay; 2) *WoW* has active communities outside the gamespace to involve gamers in writing strategy, lore, and loot guides; 3) *WoW* is a social game that requires player negotiation and cooperation both within and outside the gamespace. Based on the theory of emergent gaming (Juul, 2005), Colby and Colby (2008) proposed a pedagogy of play by integrating computer games to change the writing classroom to a gamespace. As a game of emergence that creates constant changes within the context of play (Juul, 2005), *WoW* offers "multiple forums" (Colby & Colby, 2008, p. 301) in which students can produce texts that they are actively involved in and exhibit a direct influence on the gamespace community. Though the authors give two examples of student projects in the writing class, this article is mainly concerned with presenting how to use *WoW* in a writing class rather than discussing the research results.

To sum up, in light of the popularity among adolescents and the embedded literacy opportunities, *WoW* is chosen as the game on which the study focuses.

Chapter Summary

On the whole, literacy is a complex and dynamic conception. Revisiting multiliteracies made by the New London Group (1996) a decade ago and connecting to the conceptions of multimodal literacy and media literacy adds new dimensions to

the repertoire of knowledge concerning literacy. Conceptualizing literacy by taking account of the newly expanded alterative literacies provides a broader framework for further analysis on adolescent ELLs' L2 literacy practices in online gaming. Game literacy, as a newly emerging dimension in a kaleidoscope of literacies, deserves attention for further research, especially when we face the problem that students are more engaged in games rather than school work.

In previous research, literacy engagement has put an emphasis on reading and writing in print in the classroom. Also, much research has found a gap between students' literacy in and out of school, which is even enlarged with the development of technology. In ESL research field, much is known in relation to connecting students' home literacy and community literacy to promote learning, but less is known about how students' literacy initiated by themselves, such as video gaming, can be incorporated in learning. From both theoretical and research perspectives, it is found gaming environments can provide language learning opportunities. Shifting the focus of students' literacy engagement in school settings as most previous research has done, this study will create a window for seeing how adolescent ELLs are engaged with L2 literacy practices in gaming outside of school. At the cutting edge of literacy education, with a theoretical framework of literacy engagement and spotlights on newly emerging game literacy, we need more work that brings these two pieces of the puzzle together. Before applying students' gaming literacy to classroom instruction, it is essential to examine what and how literacy practices occur in gaming.

CHAPTER 3
METHODOLOGY

Overview

In this chapter, I begin with explaining why qualitative inquiry was proposed for this study and discussing the epistemology and the theoretical perspective embedded in the study. Then, I describe why an ethnographic multiple case study was employed as an approach in this research. Next, research subjectivity, research context and participants, data collection, and data analysis for this study are presented. Finally, I discuss how trustworthiness was enhanced throughout the research process.

As the overarching research question suggests, this study investigated how adolescent ELLs were engaged in L2 literacy practices through online gaming and how they made "sense of their world and the experiences they have in the world" (Merriam, 1998, p. 6). I conducted the study in the "field," where the participants experienced the issue under study (Creswell, 2007). In other words, understanding the context of gaming was critical to investigate the participants' L2 literacy engagement in this study. Thus, a qualitative study was appropriate to investigate "meaning in context" (Merriam, 1998, p. 1). With a focus on "the meaning-making activity of the individual mind" (Crotty, 2004, p. 58), an ethnograhic multiple case study was adopted to present a "rich, 'thick' description" (Merriam, 1998, p. 29) of what L2 literacy practices occurred in gaming.

Epistemology: Constructionism

In qualitative research, epistemology, namely, "how we know what we know" (Crotty, 2004, p. 8) is the "philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate" (Maynard, 1994, p. 10). It is fundamental to identify the epistemological stance (Crotty, 2004) and justify the research orientation. The epistemology for this study was constructionism, where "[m]eaning is not discovered, but constructed" (Crotty, 2004, p. 9) by humans. From the constructionist view point, meaning is never simply described as "objective" nor "subjective," since meaning is constructed out of the object by the subject (Crotty, 2004). To be specific, constructionism suggests meaning is constructed out of humans' engagement with the world they are interpreting (Crotty, 2004). Meaning is a mutual construction involving humans and their human world. In other words, construction occurs in interactions between the self and the world (Crotty, 2004).

Theoretical Perspective: Interpretivism

Theoretical perspective, "the philosophical stance that lies behind our chosen methodology" (Crotty, 2004, p. 7), provides the lens through which "assumptions to our chosen methodology" (Crotty, 2004, p. 7) are viewed. In this study, I attempted to play multiple roles as a listener, an observer, and an interpreter to present a descriptive study of how adolescent ELLs were engaged in L2 literacy practices through online gaming. As an approach to reveal "culturally derived and historically situated interpretations of the social life-world" (Crotty, 2004, p. 67), interpretivism

was applied as the theoretical perspective to guide this study. In contradistinction to the explicative approach to focus on causality in the natural sciences, the interpretivist approach to human inquiry leads researchers to interpret their understanding in the human and social sciences (Crotty, 2004). By observing what the participants did and listening to what they said, I sought to understand the gaming context in which L2 literacy practices occurred and interpreted how adolescent ELLs were engaged in L2 literacy practices through online gaming.

Ethnographic Multiple Case Study Approach

To present a portrait of how adolescent ELLs were engaged in online games, a multiple case study was utilized in this study. Creswell's (2007) and Merriam's (1998) work on case studies provides underpinnings for my research design. As Creswell (2007) notes, whereas some take "the case" as an object of study (e.g., Stake, 1994, 1995), others consider it a methodology (e.g., Merriam, 1998). According to Creswell (2007), a case study is "an exploration of a 'bounded system' or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context" (p. 73). This definition given by Creswell (2007) is congruent with Yin's (1994) interpretation that a case study is "an empirical inquiry that investigates a contemporary phenomenon within its real-life context" (as cited in Merriam, 1998, p. 29). Thus, case study is "the process" of a qualitative inquiry rather than merely "the product" of an investigation. Three special features, "particularistic," "descriptive," and "heuristic" (Merriam, 1998) in qualitative case studies are important to this study. First, case studies focus on "a particular

situation, event, program, or phenomenon" (Merriam, 1998, p. 29). Second, "a rich, 'thick' description" (Merriam, 1998, p. 29) is the end product of a case study. Third, case studies can "illuminate the reader's understanding of the phenomenon under study" (Merriam, 1998, p. 30). Because this study was to demonstrate the complexities of L2 literacy engagement embedded in the gaming experience, a case study could present a "holistic, lifelike, grounded, and exploratory" (Merriam, 1998, p. 30) picture of how adolescent ELLs are engaged in L2 literacy practices through online gaming.

What "the case" is in case studies remains an essential question to qualitative researchers. The case is viewed as a "bounded system" by Smith (1978) and "an integrated system" by Stake (1995). In Merriam's words (1998), the case is "a thing, a single entity, a unit around which there are boundaries" (p. 27). According to Miles and Huberman (1994), the case is "a phenomenon of some sort occurring in a bounded context" (p. 25). In this study, the phenomenon was ELLs' L2 literacy engagement through online gaming. Applying case study to this research stemmed from my desire to present "insight, discovery, and interpretation rather than hypothesis testing" (Merriam, 1998, p. 29) about this group of population's literacy practices in gaming.

Though Glesne and Peshkin (1992) state that "generalizability" holds little meaning for most qualitative researchers (in Creswell, 2007), looking at a range of similar cases can strengthen "the precision, the validity, and the stability of the findings" (Miles & Huberman, 1994, p. 29). Thus, rather than a single case, a

multiple case study was utilized to seek a wider array of information while “in-depth” description was considered. The number of subcases matters in a multiple case study. The more cases included in a study, “the greater the variation across the cases [and] the more compelling an interpretation is likely to be” (Merriam, 1998, p. 40); on the other hand, more cases may result in the greater lack of depth in description (Creswell, 2007, p. 76). As Creswell (2007) suggests no more than four or five cases are chosen, this study present four cases. The multiple case study represented by a few adolescent ELLs who played online games at the micro level were bounded by “the case” at the macro level that this group of population’s literacy engagement in online gaming.

Furthermore, an ethnographic approach was employed in this multiple case study. According to Sturman (1997), ethnographic case study is one type of case study, which involves in-depth study by means of participant observation and interview. In a similar vein, Taft (1997) takes ethnography as a case study method and notes that educational researchers tend to adopt ethnographic methods, which were originally employed by anthropologists in cultural studies and social communities. By employing an ethnographic multiple case study in describing immigrant students’ out-of-school literacy practices, Yi (2005) asserts that an ethnographic approach is particularly appropriate for investigating “actual activities, events, and use of literacy” (p. 5) since it can offer a thick description of what happens. Likewise, various ethnographic techniques were used in this study to

triangulate multiple data sources, including interviews, observations and artifacts, to produce an in-depth description of adolescent ELLs' engagement in online gaming.

Research Subjectivity

In a qualitative research, the issue of subjectivity should be recognized as a part of research from deciding on the research topic to selecting the ways to interpret research findings (Glesne, 1998). Being aware of one's subjectivities is crucial to guide a qualitative researcher to monitor the perspectives that might "shape, skew, construe, and misconstrue" (Glesne, 1998, p. 109) what she/he makes of what she/he sees and hears. I state my subjectivity about how my research interest in this topic was triggered and how I prepared to understand *WoW* by playing.

When I was a child, I played console games such as *Super Mario*, *Contra* and later computer games like *Tokimeki Memorial* (*Heartbeat Memorial*) and *Need for Speed* (*NFS*). But, I was not a typical gamer and did not play a lot of games. Playing games is only a small portion of my childhood memory. I became interested in computer games when I took an educational technology course in the second year of my doctoral program. In class, we discussed gaming in education and virtual learning environments. Since then, I have been reading literature on gaming. Although there is a wealth of literacy about gaming in education in general, there is still relatively little research on gaming and language learning. This suggests tremendous research potential in this field. Because I was interested in Computer Assisted Language Learning (CALL), I decided to do my dissertation incorporating L2 literacy and gaming. So far, I have conducted two case studies on ELLs'

linguistic and cultural experience in gaming with a focus on *The Sims2* and *Adventure Quest*, respectively. The research findings reflect that highly contextualized and multimodal environments help to enhance ELLs' language learning and literacy engagement fostered by their gaming experience maximizes their learning opportunities as well. Later, the topic became more appealing when I found that almost all children I knew, whether they were boys or girls, ESL students or English native speakers, played some type of video games. I heard a lot of parents' concerns or complaints about the considerable amount of time their children, particularly boys, spent playing games. In the meantime, many children still hid from their parents playing games regardless of how strict their parents were. Spurred by the deficiencies in current research on language learners' gaming experience and the common phenomenon in real life that all parents expected that their children could be as engaged in learning as they play video games, I was keen to understand why children were so intrigued by video games and what literacy experiences they might encounter while playing.

As I said, I am not an experienced gamer and I position myself in this study as an outsider rather than an insider. The insider-outsider debate has been a longstanding issue in qualitative research. Though an insider may have a distinct advantage in accessing and understanding the culture under research, Labaree (2002) argues that these advantages are not absolute and the insider must be aware of ethical and methodological dilemmas. Though it is not necessary for me to become an insider by spending an average of twenty hours a week playing *WoW* as

many other subscribers to the game (Yee, 2006), it is still valuable to gain somewhat "insiderness" by playing games so as to closely investigate the literacy practices in gaming.

Since March 2009, I have been playing *WoW* after I found this popular online game was worth further investigation. Gee was amazed by the complexity of video games when he happened to play with his six-year-old son. I felt overwhelmed at the very beginning when confronted with bewildering number of symbols, images, texts, and sounds. The segmented blocks and constant pop-ups baffled me, a reader who has been used to reading the text in a linear order. When I just logged on, I had no idea when someone spat at me. As a newbie to *WoW* with limited experience in other games, I felt like being a stranger in a foreign culture, even though I have been exposed to *WoW* for a while since I began to read literature in gaming. After spending longer time on the game, I came to know more about races and classes and understand how to read various meters. I realized that my experience in *WoW* was playing to learn rather than learning to play, which was congruent with the learning principle of "performance before competence" in gaming (Gee, 2003).

Research Context and Participants

After obtaining approval from University of Florida's Institutional Review Boards (IRB), I started recruiting participants in July, 2009. As a member of the local Chinese community, I went to the local Chinese church to distribute flyers (see

Appendix B) to solicit participants and spread the word about my research among the Chinese community.

For the sake of "purposeful sampling" (Creswell, 2007, p.75; Merriam, 1998, p. 61) to occur, I conducted an oral survey (see Appendix C) in recruiting participants. The following selection criteria were used:

- All the participants in this study were ELLs in grades 8-12 (approximately aged 13-18), including those who were currently receiving ESL services and those who were exited from ESL services.
- All the participants spoke Chinese as their L1.
- All the participants in this study were those who enjoyed playing online computer games and spent about two or more hours playing games per day.
- Participants had been playing or were willing to play *WoW* in the English language. Both novices and experts of playing *WoW* were allowed in this study.

The sampling procedure intended to identify current students that were receiving ESL services. However, none could be identified from the sample. Introduced by my friends, I finally found four adolescent boys: Mark, Fei, Jim, and Kyle, who were interested in my study and gained their parents' permission to participate. Though one girl showed interest in my study, her father did not allow her to participate because he thought she should spend more time on reading. The final participants had been in the United States between five to seven years at the time of the study. All of them attended public schools. Mark, Fei, and Kyle were identified, received and were exited from ESL services. Jim had been mainstreamed in his schooling. All of them, however, were native Chinese speakers and second language learners of English. To compensate for the participants' time in this study,

a Best Buy gift card worth $50 was given to the four participants upon completing data collection. During the data collection process, I paid *WoW* monthly fee of $19.99 for two months for each of the four participants. Since my dissertation was funded by the International Research Foundation (TIRF), I used the grant to pay these fees in the study.

Data Collection

This study triangulated multiple data sources, using interviews, observations and archival data sources collected. The data collection ranged over approximately five months. Triangulation of the data helped me check whether inferences and which inferences were valid (Hammersley & Atkinson, 1983). In order to ensure access to the computer and the Internet, two options were considered: (1) with the permission of the participants' parents, I collected data at their homes if the computer and the Internet was accessible; (2) data collection could also be conducted in the computer lab in School of Teaching and Learning at the University of Florida.

Interviews

There were two formal one-hour individual interviews with each participant. All the interview questions were semi-structured (see Appendix D).

At the beginning of the study, a one-hour interview with an emphasis on the participants' prior video gaming experience was conducted in a place of convenience for the participants. Each participant was asked to recall his prior experience of playing video games including both online and offline games by describing his first

introduction to video games, the games he enjoyed, the activities he was involved in playing games, among others. The first interview provided me with a global view of each participant's "life history" in terms of video games. At the end of the study, a second one-hour interview was conducted to ask the participants to reflect on their *WoW* experience throughout the study. I also conducted follow-up interviews with the participants when questions occurred in data analysis stage. The participants were told to use either English or Chinese in interviews, whichever was more convenient. Two participants used English and one participant used Chinese. Another participant used the two languages interchangeably. Later, 35 pages of transcripts in Chinese were translated into English.

Generally speaking, all the interviews followed "listen more, talk less," the first law of interviewing put forward by Seidman (1991). Interviews were designed to bring out information on the participants' experiences and opinions on playing games. There were slight differences in dynamics between two formal interviews. The first interview was essentially based on the guided questions, but the second interview corresponded to the specific gaming contexts and encouraged the participants to introduce many concrete details. A digital recorder was used to record the interviews. Some brief notes were taken as well. To ensure trustworthiness of the interviews, I also asked the participants to review what I transcribed after each interview.

Observations

I observed each participant playing *WoW* once a week, which lasted between 60 and 90 minutes. Observation times were scheduled according to the participants' availability. For further analysis, a screen capture program, *Camtasia*, was used to record the whole game play process on the screen. After each observation, the recording of the game process on the screen and each participant's activities was used in a stimulated recall procedure (see Appendix E) to cue the participants' memory in describing his experience (Gass & Mackey, 2000)while playing the game. Given the dense observation and the length of research time, I kept field notes and reflections of observations.

In observing the participants playing the online game, I had a dual role in the observation process: a direct observer "in the virtual field" (Williams, 2008) and meanwhile a partially participant observer in the real world. On the one hand, I was involved in nonparticipation observation, since my knowledge of the game play was acquired "by observing phenomena from outside the research setting" (Dewalt & Dewalt, 2002, p. 19) and I did not create an avatar to interact with the participants in the game world. Because my observations attended to what happened in the virtual environment as well as how participants acted (e.g., reading tutorials) in the real environment, the research setting indicated the real world, the virtual world, and the interface between the two. On the other hand, how participants controlled their avatars in the game may have been partially affected by my presence and questions. In this sense, I might have "peripheral membership" in moderate participation

(Dewalt & Dewalt, 2002) due to my occasional interactions with the participants playing online games. The dual research settings of the real and the virtual simultaneously and the synchronous interactions between the real environment and the virtual world determined the complexity of my role in observation.

Archives

An archive for each participant was kept. With the participants' permission, any substantial products related to their online gaming experience, for example, the timelines of gaming history drawn by the participants and some snapshots of game play were collected as supplementary data. In order to demonstrate how the three kinds of data sources were gathered, I make the flow chart below delineates the data collection process.

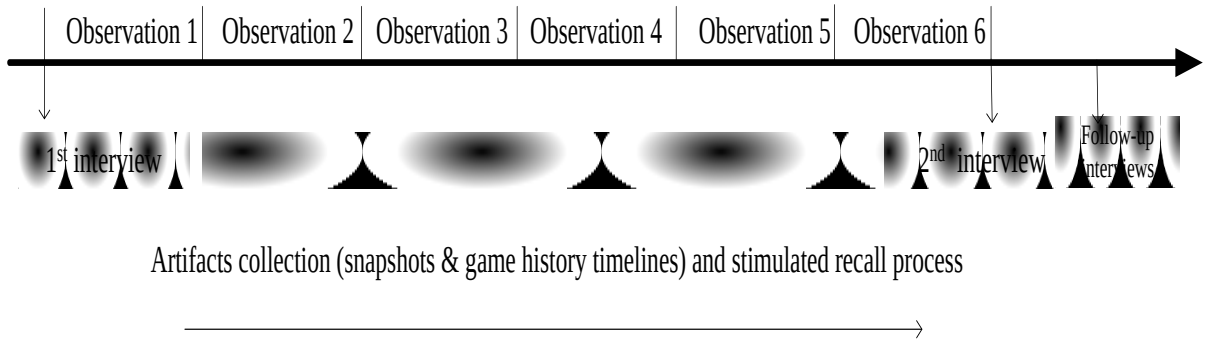


Figure 3-1. Flow of data collection.

Note: The arrow at the bottom indicates archive collection and stimulated recall procedures were carried out throughout the whole research process.

Since the observation times were dependent on the participants' availability, it was impossible to finish all data collection with each participant in six consecutive weeks. Due to the varied availability of the participants, the data collection with each participant lasted as short as two months and as long as four months. From the first interview with Mark at the end of July 2009 to the second interview with Jim at the

end of December 2009, the whole data collection process lasted about 5 months. The data collection timeline is shown as Figure 3-2.

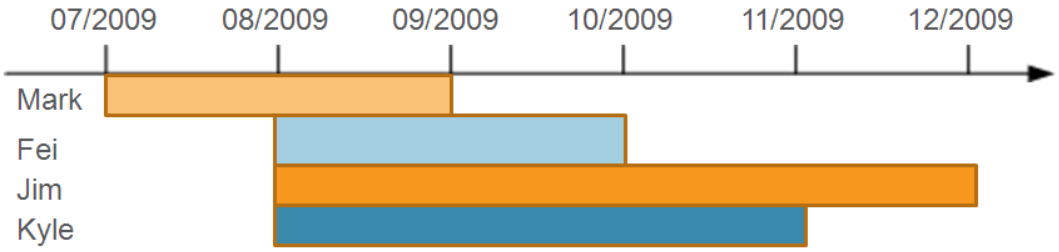


Figure 3-2. Data collection timeline.

As mentioned above, I planned to have two one-hour interviews and six one-hour observations with each participant. When I collected data, there were some variations because some interviews and observations took either less or more than the time I planned. The table below summarizes the sources and the quantity of the data:

Table 3-1. Sources of data

Participant	Interviews		Observations (visual materials, field notes, and reflections)	Archives
	Formal interviews (Planned: 1 hour/time x 2 times)	stimulated recalls	Observations (Planned: 1hour/time x 6 times)	Gaming history, timeline, and snapshots
Mark	2h55m	6h23m	5h43m	Variable
Fei	1h47m	6h12m	6h12m	Variable
Jim	1h51m	5h37m	5h37m	Variable
Kyle	1h55m	6h05m	6h05m	Variable
Total	7h48m	23h37m	23h37m	Variable

Data Analysis

A large corpus of data was produced in this study. I transcribed all the interviews, the stimulated recall audios, and the game videos I collected. All the interviews and the stimulated recalls were transcribed into 74 pages of textual form

of data. In transcribing the game videos of approximately of 24 hours, I described the participants' each single activity in the game and added a large volume of snapshots to supplement the descriptions. In addition, the entire chat log was also included in the video transcriptions. Finally, the transcription of the videos turned out to be 566 pages of verbal description with an immense amount of snapshots.

Data analysis involved categorizing, organizing, and synthesizing what is heard and seen in data collection process (Glesne, 1999). Two stages of data analysis, within-case analysis and cross-case analysis, were conducted. First, each case was taken as "a comprehensive case in and of itself" (Merriam, 1998, p. 194) to provide a detailed description. Then, "abstractions across cases" (Merrriam, 1998, p. 195) was used after the analysis of each case was completed. According to Miles and Huberman (1994), cross-case analysis is not "[s]imply summarizing superficially across some themes or main variables by itself" (p. 195). Instead, "more sophisticated descriptions and more powerful explanation" are vital when we seek "processes and outcomes that occur across many cases" (Miles & Huberman, 1994, p. 172).

In order to yield substantial "comparisons" in data analysis, the constant comparative method developed by Glaser and Strauss (1967) was used as a data analysis strategy in this study. According to Merriam (1998), the constant comparative method is actually compatible with "the inductive, concept-building orientation of all qualitative research" (p. 159). The primary purpose of this study was to provide an in-depth description. Apart from interview data, the constant

comparison method was also employed to analyze large volume of archives and observations including visual materials and field notes.

In delineating how constant comparison is used as a general data analysis strategy in qualitative research, Merriam (1998) suggests “the researcher begins with a particular incident from an interview, field notes, or document and compares it with another incident in the same set of data or in another set” (p. 159). In this study, there were three sets of data derived from each case, in which there were three types of data, namely, individual interviews, observation field notes and reflections, and archives. In within-case analysis, the categories constructed in each type of data were compared with another type (e.g., interviews vs. observation field notes vs. archives). In coding three sets of data, I found the conceptual labels both within and across the data all the time. At very beginning, “constant comparative methods” (Glaser & Strauss, 1967) were used to compare statements within the same set of data. Later, I could perceive similar categories of information while closely examining the codes across data. Comparisons occurred within one data and then across the data. The process was involved in word-by-word, line-by-line, and sentence and paragraph analysis to label the salient phenomena in the transcripts. I decomposed the lines into discrete unites and looked for the key words in each unit. Later, in cross-case analysis, there were two levels of analysis. At the micro level, the tentative categories derived from each type of data were compared across three sets (e.g., interviews vs. interviews). At the macro level, the themes inducted in one set of data were compared with those in another set. In this way, comparisons were

constantly made within and between levels of conceptualization (Merriam, 1998).

Figure 3-3 depicts the flow of data analysis as follows:

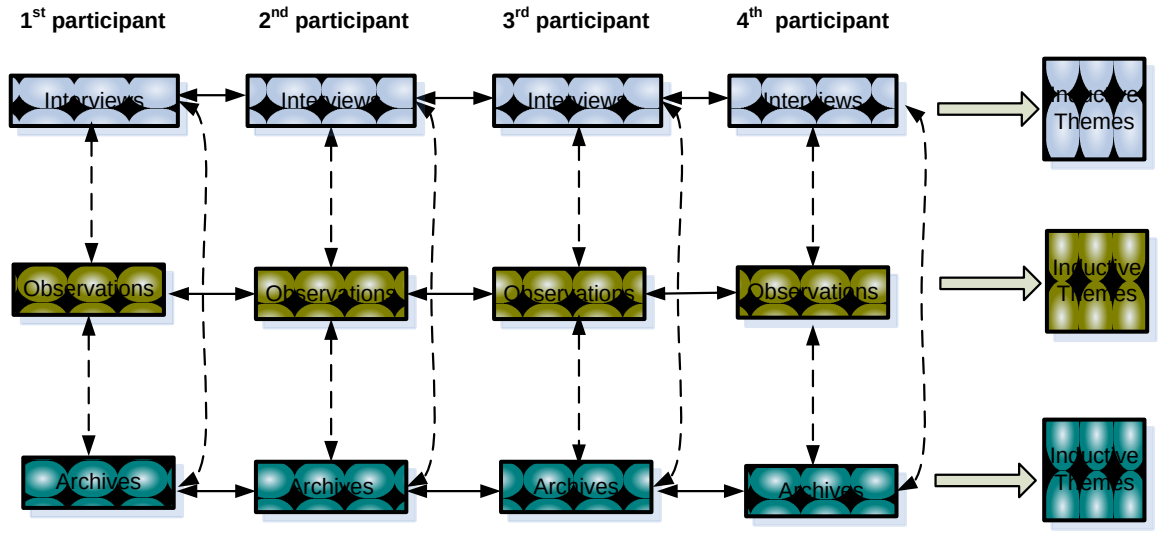


Figure 3-3. Flow of data analysis.

Note: The dotted line arrows and the solid line arrows indicate within-case analyses and across-case analyses respectively. The two-headed arrows between same types of data between cases (e.g., observations observations) suggests an open cycle of comparison across cases, i.e. 1st participant's observation data were compared with observation data of the other three participants rather than merely comparing the observation data of the 1st participant and that of the 2nd participant.

Trustworthiness

As reliability and validity provides the lens through which a quantitative study is evaluated, trustworthiness (Lincoln & Guba, 1985) illuminates the way to examine a qualitative study. Trustworthiness indicates the extent to which qualitative inquiry is "worth paying attention to" and "worth taking account of" (Lincoln & Guba, 1985, p. 290). It is judged by four criteria: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Parallel to internal validity in quantitative studies, credibility reflects whether or not the "truth" is presented in the interpretation based on the data. Lincoln and Guba (1985) endorse the concept of "transferability"

with the concept of external validity in quantitative studies, which designates the degree to which the research findings are applicable to other research contexts. As an alternative term of reliability, dependability in a qualitative study reflects whether the research findings will be subject to change and instability (Creswell, 2007). Meanwhile, a qualitative researcher seeks confirmability rather than objectivity to demonstrate how research findings are supported by the data collected. To establish trustworthiness, I employed some techniques in the study process. Figure 3-3 shows in which study phases what techniques were used for what purposes.

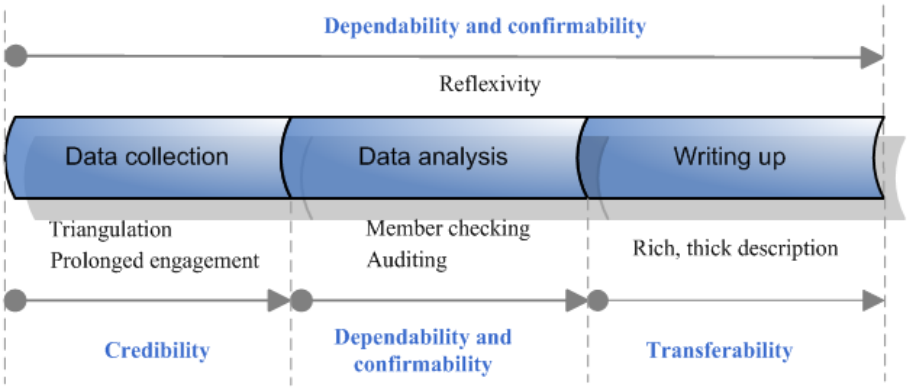


Figure 3-4. Establish trustworthiness in the research process.

In order to promote credibility of the study, triangulating multiple data sources including interviews, observations, and archives contributed to credibility. Also, another technique of prolonged engagement (Lincoln & Guba, 1985) was used by following-up interviews. Collecting additional data allowed me more time with the participants to ask some questions to arrive at data saturation.

To make the research findings transferable to other settings, I provide a rich, thick description. Detailed descriptions of the participants and the research setting

enable the audiences to decide how and to what extent the research findings can be transferred beyond this research setting.

To address dependability and confirmability, I used three techniques. First, I used member checking. After interviews and observations were conducted and transcribed, I checked with the participants about the interview transcripts and the field notes. Second, I kept an audit trail, which consists of raw data, analysis notes, reconstruction and synthesis products, process notes, personal notes, and preliminary developmental information (Lincoln & Guba, 1985). In the data analysis stage, I enlisted my colleagues in my study group to "audit" my field notes, codes, and interpretations. My student group consisted of doctoral students majoring in ESL, literacy studies, math education, and educational technology. Auditing led me to clearly describe and critically examine my research process. Third, I was engaged in reflexivity since the interpretation of the study. Reflexivity suggests that the researcher consciously realizes that her/his own actions and decisions inevitably impact upon the context and interpretation of the experience under investigation (Horsburgh, 2003). Reflexivity should be an ongoing process throughout the whole study. To be a self-reflective researcher, I kept writing journals after interviews and observations to monitor and ponder the ways in which I could assist the process of collecting data.

Chapter Summary

This chapter outlined what methodology and methods I employed to collect data and how I analyzed the data. Altogether, I briefly discussed why a qualitative

research is appropriate and how constructionism as the epistemology, interpretativism as the theoretical perspective, and an ethnographic multiple case study approach elucidated my research. Also, I provided a description of the researcher's subjectivity, research context, and participants. This study incorporated multiple data sources including interviews, observations, and artifacts. To generate analysis of the data in a systematic way, the technique of comparative comparison was employed in within-case analysis and cross-case analysis. Finally, I described how trustworthiness was established by employing some techniques in the research process.

CHAPTER 4
A PROFILE OF THE PARTICIPANTS: FOUR TALES IN ONE WORLD

Overview

In order to understand what L2 literacy practices the participants were engaged in within and around *WoW,* it is important to know who the four participants were, what their previous gaming experience was like, and how they viewed the game they played in this study. Therefore, this chapter provides a profile of the four participants. First, I briefly introduce the four participants and their avatars in *WoW*. Second, I present the four participants' backgrounds, gaming histories, and their views on *WoW*.

Three Novice *WoW* Players and One Experienced *WoW* Player

In this ethnographic multiple case study, there were four participants: Fei, Jim, Kyle, and Mark. All of the participants were Chinese adolescents who had lived in the U.S. for between four to nine years. Fei, Jim, and Mark were born in Mainland China and Kyle was born in Taiwan. All of them later immigrated to the U.S. Except for Kyle, the other three participants were in high school. Though Kyle had just finished 12th grade, he still had two credits in order to obtain his high school diploma and was taking a history class when I worked with him in Fall, 2009. Of the four adolescents, Mark was an experienced *WoW* player and had reached level 80, the maximum level in *WoW*. The other three participants were new to *WoW* but they had been playing video games for between four years to ten years. The table below provides a brief summary of the participants' background information.

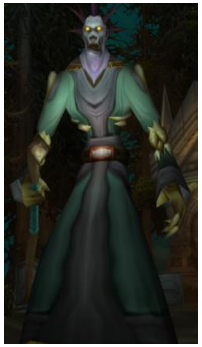
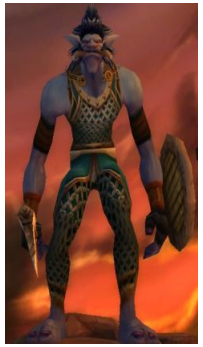
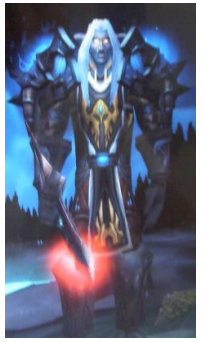
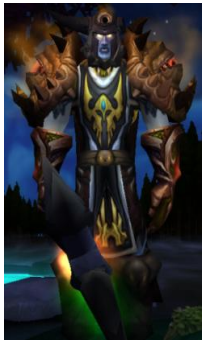
Table 4-1. Four participants' background information

Name (Pseudonym)	Age, gender	Grade	Length of time in the U.S. at time of study	*WoW* level (lvl) during the study	Length of game play history
Fei	14, M	9th	5 years	From 1 to 8	8 years
Jim	17, M	10th	9 years	From 1 to 12	4 years
Kyle	18, M	post-12th	4 years	From 1 to 11	10 years
Mark	16, M	10th	7 years	80 (Highest)	8 years

Note: Kyle had finished 12th grade, but he still had two credits for his high school diploma.

Each participant had at least one avatar in *WoW*. In creating an avatar, the participants needed to be either Alliance or Horde, two warring factions. Characters from the same faction can group and interact. Also, the player must select the character's race and class. There are currently ten races (Dwarf, Gnome, Human, Night Elf, Draenei, Orc, Tauren, Troll, Undead, and Blood Elf) and ten classes (Druid, Hunter, Mage, Paladin, Priest, Rogue, Shaman, Warlock, Warrior, and Death knight). Each race has its unique racial traits and certain class selections. The table below shows the participants' avatars in *WoW*, including their factions, races, and classes. In order to protect virtual confidentiality, I use pseudonyms for the actual avatars which appear in this study, including in the snapshots hereinafter. Fei and Jim created only one avator, that is, Blubolt and Lylefun respectively. Kyle had three avatars: Vanillat, Midiron, and Unokool. The two avatars that Mark often played were Marklull and SuperMark, though he had eight avatars in total with a range of level 11 rougue to level 80 warrior.

Table 4-2. Four participants' avatars in *WoW*

Participant (Pseudonym)	Fei	Jim	Kyle			Mark	
Avatar's Name (Pseudonym)	Blubolt (L1 to L8)	Lylefun (L1 to L12)	Vanillat (L1 to L3)	Midiron (L1 to L5)	Unokool (L1 to L11)	Marklull (L80)	SuperMark (L72)
Faction	Horde	Horde	Alliance	Alliance	Alliance	Alliance	Alliance
Race	Undead (Male)	Troll (Male)	Human (Female)	Human (Male)	Human (Male)	Night elf (Male)	Night elf (Male)
Class	Mage	Warrior	Warlock	Warrior	Mage	Warrior	Hunter
Avatar's Image							

Four Tales in One World

This section provides a profile of the four cases. In each case, there are two parts. First, I introduce the background of each participant, including their family background and his gaming history. Second, I present the participants' views on their *WoW* experience.

Fei: A Persistent *WoW* Player

Fei was a 14-year-old ninth grader when I met him in summer 2009. He had not played *WoW* before and started from level 1. As a newbie in *WoW*, Fei enjoyed doing the quests alone. What was the most impressive in his game play was that he showed great perseverance when his avatar was killed for six times consecutively. His continuous efforts to solve the problem are described in Chapter 5.

Background

I heard about Fei from one friend one year before my dissertation data collection started. His parents worked as researchers in the university. My friend told me the boy's father did not let him play games and even limited his use of computer at home. But, he often sneaked to the library on campus to play games. I did not have a chance to meet with Fei's mother until the summer of 2009 while recruiting the participants for this study. To my surprise, Fei's mom kindly agreed to let her son participate in this research. It was impressive that she mentioned Fei had been reading a lot about games but she was not clear about the specific contents he read. When Fei was in sixth grade, he told his mother that he thought the school

should teach them something about gaming since he learned even more from games than from some teachers. Fei's gaming experience described by his mother aroused my interest to know more about him.

Fei had finished third grade in China before he came to the U.S. He had been here for almost five years when I worked with him. Fei was identified and received ESL services. In conducting the oral survey questions, I was surprised to find that Fei's father did not let him speak Chinese at home, because his father believed that Fei should practice English all the time. Fei could understand what I said in Chinese but most of the time he spoke English. English was the only language he spoke with his younger sister. Usually, his mother spoke in Chinese and he responded in English. As for his school performance, Fei received a 5 in reading and math and a 4 in writing in his AP tests. However, his mother was worried, saying he was not highly motivated though he seemed not have problems dealing with the exams. During the summer I worked with Fei, he was tutored in math by a graduate student his mother found for him. Obviously, his parents had high expectations of his school performance.

Fei started playing video games when he was in second grade in China. At that time, he played *Starcraft* in Chinese. Later, when he was 11 after he came to the U.S., he got a gameboy from his parents and played it for one year. Then, he played *Runescape* and *Warcraft* with a neighbor. He played a lot of real time strategy (RTS) games like *Warcraft* and some shooting games. Fei said he liked

Runescape much because he enjoyed interacting with people in this game. He continued to point out that he learned communication skills in games:

> What I learn is mainly like communication skills from playing video games... Just basic conversation skills...like how to beat somebody, how to...just how to talk to people...how to approach them (08/06/2009).

Fei believed that interacting with people helped him to learn English, especially the everyday English. When he was in eighth grade, his father began to prevent him from playing games and even occasionally refused to allow him access to computers at home. Though he talked to his mother about his game play, he knew his father would be against it. In spite of his father's negative attitude towards his game play, Fei still insisted, "No matter what, they cannot make me not play" (08/06/2009). He went to the university library to play the games. He used to play games for about one and a half to two hours per day, but he did not play games that much when I met him. The timeline of his game history drawn by Fei is demonstrated in Figure 4-1. To make it clear, I list all the games he played and the game types on the right.

I was curious about why Fei said he learned more from games than from some teachers when he was in the elementary school. He explained that he was taught pretty much the same content he had learned in China when he just came to the U.S., since "education in China is tougher than education here" (08/06/2009):

> But school here...especially elementary school, you learned absolutely nothing. So...like in fifth grade, I still remember they're still doing...nobody knows...like the times table... So I think that was ridiculous... I mean nobody learns anything... Yeah. And sixth grade...yeah, we didn't learn anything either (08/06/2009).

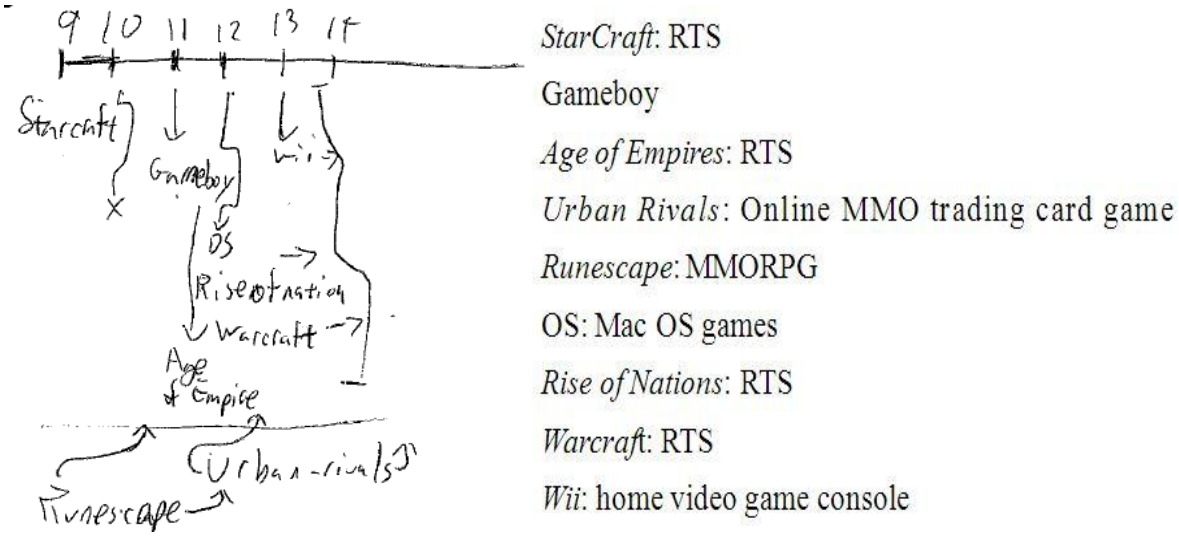


Figure 4-1. Fei's gaming history.

Note: RTS: real-time strategy game; MMO: massively multi-player online games

Compared with the easy content he was exposed to at school that time, he thought some "random facts" in computer games were more interesting:

> There're some random facts that I learned from playing different video games. I didn't know that tin and copper mixed together makes bronze. And supposedly we learn that this year in ninth grade. I knew that 'cause I played the game. I knew that since I was in sixth grade. Yes, just some random facts...Yeah, we're learning about the history of the earth or something. So, I knew that. It's just random facts... You don't learn anything solid. You just learn random facts (08/06/2009).

Fei used the word "supposedly" several times to describe his parents' attitudes towards games that they thought he was obsessed with playing games, which negatively affected his grades. However, Fei felt he had nothing to do if he did not play games and his grades would be not good enough to meet his parents' expectations anyway. Fei admitted that he spent a lot of time on games when he used to play at least one to two hours every day, but he emphasized that his attitude towards school per se was more important:

> I do spend a lot of time on it [playing games]. That's true. But it's really about attitude. If at that time my attitude towards school was serious, even...no matter what I do, my grades would still be good (08/06/2009).

Fei did not agree that games per se were bad. He used the analogies of sports and reading to justify that it depended on how games should be played:

> Well, there's really nothing bad about it. Maybe you get nearsighted if you look at...It's really a way to pass time...like saying sports are bad for you, because it takes too much time. Instead of playing sports, you can sit in home and read a book. Yeah...the same argument can process ...it's just a way to pass time, entertainment like reading. So, it can't be bad (08/06/2009).

To him, there were "a lot of contents" (08/06/2009) and he could never run out of things to do playing *Runescape*. Also, interacting with others was another reason he liked *Runescape*. He read a lot about *Runescape*, including books and materials online:

> There's like a book...walkthrough... There're a lot of books that they make for games. And sometimes I'll go look at that... Well, if it's a book, they'll put it in a place you'll notice it...Yeah, if I go looking at the game sections, it would be there. If it's online, I just google it... You know, in Walmart, there're a lot. I won't pay 35 bucks for that...I can take a look and find the answers (08/06/2009).

Fei found the online forums were good resources, too. Though he did not make posts, he did read others' posts:

> Well, chances are if you have any kind of questions, someone already asked that. So there's usually no plan actually posting in the forum...just looking at what others say (08/06/2009).

If he could not find the answers he wanted on the forums, he probably would look for them somewhere else. He could google the answers he wanted to know. Also, he found books about walkthroughs of *Runescape* in Walmart. Fei said he would not

pay thirty five dollars for those books but he could take a look and find the answers in the books.

Fei's voice about *WoW* experience

As a novice player in *WoW*, Fei felt bored in the beginning. He found that his access to the rich content in the game was quite limited since his level was too low. However, he believed that more interactions with other players in higher levels such as level 40 would be exciting. Since he reached only a level 8 during this study, Fei expected more various places he could explore when he got to a higher level. He felt that he just played "the basic part of the game" and it could be "more mentally challenging" (10/30/2009) when his level became higher. After playing *WoW* for a few times, Fei told his mother that he found the quests became more interesting and would play *WoW* when he could pay the fee by himself in the future.

The best part of *WoW* to Fei was to discover "the plots of the story" (10/30/2009) since he liked reading myths and adventures. However, Fei did not feel he read a lot in playing *WoW* based on his own way of estimating how much reading occurred:

> During this entire game, I read about 200 sentences and... If I pile that on...like in a page... So, basically, I only read about twenty minutes out of playing for six hours. So, it's not a very cost-efficient way of learning English (10/30/2009).

I was wondering how he got the exact number of sentences he thought he had read. He explained his way of calculation:

> Just rough estimate. From each quest, the description...that's about five sentences. I did about...completed 10 quests... suspended 20

> quests...fifteen or something quests. Sometimes, words popped up and hints popped up. So, I just estimate all of them and then I get 200 sentences (10/30/2009).

Based on his previous gaming experience, Fei did not think he had problems figuring out the rules in *WoW* since the "basic structure" was the same as those in other games. Even though he had difficulties in game play like being trapped in some buildings, he just "randomly tried" with his "persistence" (10/30/2009). The most difficult part for Fei was to find directions in *WoW.* He felt the mini-map was not very helpful and wanted more labels on the map to indicate different sections.

Though Fei emphasized being able to interact with other players was a reason why he liked *Runescape*, he did not have much communication in text chat while playing *WoW*. He thought communication would occur at higher levels:

> Well, this game really isn't about chatting.... Yeah, it's definitely because of the low level. If the level is higher, I will communicate a lot more,'cause I actually need to communicate with people. When there's a challenge...like I can't find it, there's no one to talk to anyways. So, there's no communication going on. Also, because in this game, I don't need to interact with other people. Whereas in other games, like just playing cards, you actually have to interact with people... [At a higher level] there'll be more difficult quests. I may actually have problems with a quest... If I have some difficulties or if I need to trade with them, I need to communicate with them (10/30/2009).

Although he felt working with others was more engaging, he did not believe communication in text chat was quite necessary when he was at a low level. Also, interacting with others was an option not a must while he was at a low level.

According to Fei, the texts in the quests were important, because they told him the purpose of the quests and how to complete the quests. The symbols helped him find the items quickly. Though he did not use voice chat, he said it would be efficient in *WoW* for people to talk while playing.

Other than English, Fei believed basic logic like basic deductive reasoning was needed in playing *WoW*. To explain what he meant by "deductive reasoning," he gave an example, saying there was definitely a door in the building so that he kept looking for the door.

In discussing the possibility of using *WoW* for school learning, Fei thought there should be more words:

> Just not enough words to read. And I think the game is just like that, because usually when people look for...the game isn't to read a lot... Yeah, I mean, if you see a large group of words, you don't usually want to look at it (10/30/2009).

He made the further point that *WoW* was not designed to have an educational purpose. Even though there were some games for education, he would not play them:

> Because that's not the way I'm trying to achieve. Because I think education and entertainment is a tradeoff. So, they can't coexist exactly. I mean, education can exist in a way that's entertaining. But, education and entertainment cannot coexist... No. I'm saying education can be made so that it's easier and is less boring for a person. But, education and entertainment can't coexist...I mean, they're opposite ends. People usually view study as a job and view games as entertainment. So, you don't entertain while you are on a job. So, that contradicts each other. People view different things, different functions (10/30/2009).

Obviously, Fei distinguished well between education and entertainment, which he thought would not coexist. Moreover, he did not think incorporating gaming in the classroom teaching would work. To this question about gaming in the classroom, his first reaction was parents' attitudes:

> Well, it's possible...of course...that teachers are trying to incorporate gaming into school. But...it's possible...of course...it's not gonna to work...well, first problem...you know, they're not allowed to do that. The teacher doesn't have the right to do that. I don't think it's legal, because some...I know some parents is gonna be like, you know, you can't do that. I'm pretty sure some parents aren't happy with that. The general attitude about that... I just believe that won't work well. ...I mean that's totally possible, but I don't think the results will be good. Because it's separate things, either...It depends on how... what people's reactions...generally... (10/30/2009).

Also, he thought that people would not play *WoW* any more if "more words" (10/30/2009) were added for learning purposes.

Jim: A Quiet Boy Being Social in the Virtual World

Jim was a 17-year old 10th grader. Most of the time, Jim was a quiet adolescent. Unlike Fei and Kyle, Jim seldom talked unless I asked him some direct questions. However, Jim turned out to be a social novice player in *WoW*. He accepted duel challenges, joined others' groups, and sought help from a more experienced player.

Background

Jim had been in the U.S. for almost 10 years. His parents ran a Chinese restaurant in the university town and he had a younger brother. He communicated

with his family members using Fuzhounese, a southern China dialect. He spoke Mandarin and English interchangeably with me. Jim liked working out at the gym. He spent about four hours a day lifting weights and doing other things almost every day during the summer vacation. Jim was quite busy when he was at school. His father told me that Jim could not sleep more than five hours a night during school days. He dealt with the AP class work, learned Kongfu, participated in military training, and worked out at the gym. He also learned drawing on Saturdays and went to the local Chinese school on Sundays.

I met Jim first at his parents' restaurant. Jim's father was kind to let Jim work with me, though personally he did not think gaming was good for his sons. Jim's father said Jim's 12-year old younger brother was good at studying before, but his grades dropped dramatically since he began to play computer games. Asked whether they guided the children in playing games, his father said it was no use and the children could hide them. Though they would have liked to send the boys to the library, they could not do that regularly due to their busy work. Jim's father did not think that children were willing to communicate with their parents about gaming and hoped that I could let him know about what the children really did while playing games.

Jim used to play computer games for about one to two hours per day but he became too busy to do that since he was in high school. He played *Runescape* and *Diablo*. He liked *Diablo* most, because it was easy to control with "more options to

attack" (08/13/2009). Before taking part in my research, he heard a lot about *WoW*. However, he never played it, because the monthly fee was too "costly" to him. He started to play video games when he was in seventh grade. At that time, he played console games like X-box games, PS2, and PSP. He thought doing quests in *Diablo* was a lot of fun. Also the graphic design of *Diablo* was attractive to him. He showed strong interests in *Runescape*, which was "easy to control" and had "a price system." Jim enjoyed selling gear in *Runescape*. He recalled he had read some articles and updates about *Runescape* when he played that game. Jim concluded that his previous experience playing *Runescape* was that "I just did everything randomly...and later I could figure it out" (12/302009). The game history timeline below showed the games he had been playing since he was 12. To make it readable, I transcribed the games on the right and added the game types.

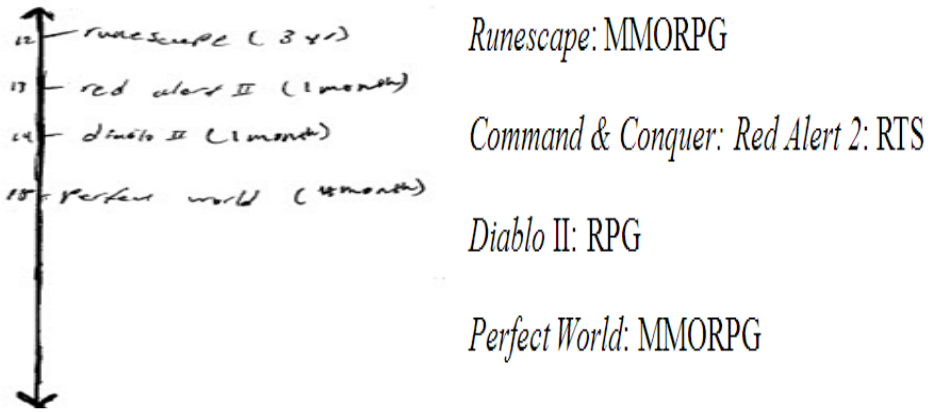


Figure 4-2. Jim's gaming history.

When asked how gaming could be connected to school learning, Jim answered that playing games could communicate with other players. Also, Jim said he could learn some legends in games which were "made of old time information"

(08/13/2009). He further pointed out there would be some “real information” in quests:

> Like...Alchemy...is like...in ancient time, when the emperor look for immortal...so try to find how to make gold...the quest is based on the step...how you make someone immortal looking for alchemy... That plot tell you how Alchemy started, where is Alchemy came from and what is Alchemy... ‘Cause teachers ask about Alchemy...probably ask me to make some research on philosopher stone and...or they might study on Ancient China about Alchemy... When I played it, I didn’t know what Alchemy came from...but after...when teacher talk about it, give you some idea about Alchemy...About in eighth grade... It was like in history about ancient China. It’s like science and history...It was like how the Chinese and Europeans...new western colonist...try to... look for philosopher stone. They believe the philosopher stone can give life... In pop quiz...questions. Some people...even the teacher taught you...you would forget about it. Once you play the game, it’s kind of stay with you...don’t go away. ‘Cause people learn more when they play it. When you play games online, you may even know more, ‘cause you play it every day (08/13/2009).

Another example he thought his previous gaming experience could be connected to school learning was that the games taught him some chemistry knowledge:

> Yeah, copper, steal. Games also teach you what’s the elements of each metal...how to form the element...like copper and tin to make bronze...those like the elements for it (08/13/2009).

However, Jim did not think he learned much English playing games. He thought the only useful way to learn English was to use a computer program called “Teen Speak” to talk to other players in playing games. He heard other players recommended that program but he never tried it. He still believed speaking should be the only way that one could improve English while playing games. Although Jim

believed that more talk in games could improve English learning, he did not like talking to others online. He had a strong sense of safety over this issue and tended to protect his identity online. Jim did not like voice chat in game play. He did not feel comfortable thinking that his voice might be recorded by others. However, he felt safe when he typed, since others would not have a clue who he was. That was also why he did not display his personal information on Facebook except his name.

Jim did not think there were many reading activities involved in game play. He took *Runescape* as an example, saying that he might have read some pop-ups in the beginning but later he had an idea of how the game worked so that he could ignore some pop-ups.

Jim's voice about *WoW* experience

After playing *WoW*, Jim thought the biggest concern was that it was hard to "control" manually. He paid more attention to how he played than what he played. He mentioned how it was easier to play *Runescape* to control the character's movements. He usually "tried everything" or asked other players when he did not understand some rules in the game. Though I did not observe he used the Internet to find any answers, he mentioned he did use Google to seek information in playing other games and believed Google was the best if he needed any information. Jim did not meet many players when he played *WoW*. He found it was not fun without many players in this multiplayer online game. The most rewarding experience to him in *WoW* was that he finished some quests with another player. The most difficulties

he encountered were to figure out where he should go. Jim described his novice experience in *WoW* as:

> I just go here and there...and I don't know there's a blacksmith...later I see that, so I know it's there. Randomly click...sometimes no purpose...Beginners are just like that. You don't know where you should go (12/30/2009).

In one observation, Jim played with another player, who helped him to finish quite a few quests. He commented on the experience as below:

> It (playing)is easier...'cause he knew more than me. He played it before. He got two accounts. His account is at level 25, so he knew more... Interactions make it easier. If you know the game well, you could be alone (12/30/2009).

They used text chats in communication, from which he learned how to finish the quests. Jim thought reading the texts in quests informed him of what he should do, and he said talking to an experienced player was more helpful than reading:

> Talking to the guy,'cause he played before. Sometimes, reading is confusing. There're random places you've never heard before and you've got to find it (12/30/2009).

Though *WoW* was harder to "control" than *Runescape*, he did not think *WoW* was very challenging, especially when he was at a very low level. Jim believed the player he talked to was a seven-year-old child, simply because that player said so. Another reason was that Jim found he misspelled some words:

> See that seven-year-old kid can play. He can't spell means he's a little kid...like "puch..."he typed that word for three times. (12/30/2009)

Jim was the only participant who mentioned he would prefer reading the manual book:

> Yeah, people don't like reading. They just take a look... [He stood up to grabbed the manual book to explain] This is the manual book, right? If

> you open it, you're not gonna to read the whole stuff. You just scan it...'cause every time when I play games, I just open it up and find the stuff I want. Also, it's must small text… (12/30/2009).

Jim did not care about the background story of the game, though he "naturally" knew the relationship between "Hord" and "Alliance." For him, they were just opposing "group stuff" which was enough for him to start playing this game.

Kyle: A "Professional" Gamer Being a "Newbie" in *WoW*

Having had played more than 30 video games since he was eight years old, Kyle described himself as a "professional" player. He was the only participant who mentioned graphic design and music were critical in games from "a professional perspective" to see how all aspects are balanced in games. However, this avid player was also new to *WoW*. Though both Fei and Jim mentioned how the Internet was useful in their previous game play experience, Kyle was the only novice *WoW* player who turned to the Internet in this study.

Background

Kyle was from Taiwan and had been in the U.S. for four years. He lived with his sister and his cousin. They came here to study in the U.S. His mother and his uncle travelled between Taiwan and the U.S., taking turns to stay here, taking care of the three children. Kyle started his schooling in the U.S. from ninth grade. Kyle had finished 12th grade, but he still had two credits to finish for his diploma. Every afternoon, he went to his high school to attend his American history class.

Since Kyle's mother was usually at home when I visited Kyle, I had several opportunities to talk to her and knew a lot about Kyle's gaming experience from her

as well. She kept comparing the three children whenever she talked about Kyle. Her daughter, Kyle's younger sister, was in 11th grade and her nephew, Kyle's cousin, was in 12th grade. In her eyes, her daughter was the type of students who studied well and had an active social life as well. However, her nephew only focused on school and seemed to be lonely at school. Kyle was the one who had a lot of friends but was not good at school. Kyle's mother felt that Kyle could not finish high school partially because of his addiction to games.

However, to my surprise, Kyle's mother still held a very open attitude towards Kyle's gaming. She believed that Kyle's interest in games brought him a lot of friends. Also, she thought that Kyle's gaming experience was helpful to improve his computer skills. Kyle even fixed a laptop which his uncle thought was no use. She mentioned that she had been always using heuristic teaching for his son, which was often questioned and criticized by her other Taiwanese friends. Her friends thought that she should be stricter with Kyle. However, her philosophy was that the children should be given opportunities to know what should be done by themselves. She was interested in my research and said we researchers should pay special attention to the kind of students like Kyle, who seemed to be "sacrifices" in the traditional education system. Kyle also invited her to play games at times, but, most of the time, she thought he was just busy keyboarding and fighting in the games. Kyle's mother mentioned that Kyle learned to draw in Taiwan and had a good taste of designing and fashion. His fashion style was followed by his peers on campus. She

hoped that he might develop his future career in designing. Moreover, she believed that gaming industry was a promising career, so she encouraged Kyle to know more about game design rather than simply playing. She hoped that Kyle might use his talent in designing to develop his future career in gaming industry.

Kyle spoke Mandarin and read Chinese online. Talking about his previous ESL class experience, Kyle did not think his English was improved much in the ESL class. He thought making some friends and going online helped him acquire more English. He was invited by his friends to use MySpace, where he made a lot of friends. In his words, "daily life English" online was totally different from the language use in the classroom. He spent much time online, "[p]robably from after school to bed time" (08/26/2009). He searched the game materials, watched movies, and chatted with friends online. Sometimes, his mother or his uncle had to pull out the Internet cable after 11pm to stop him.

Kyle started playing games when he was about seven or eight years old. He played various types of games, such as adventure games, racing games, shooting games, strategy games, and MMORPGs. Some of the games he played in Taiwan were in English audio background with Chinese subtitles. The game he played best was *Lineage II*, in which he had reached Level 80. Of all the games, he liked *AION* and *Lineage II* most, because they were MMORPGs. He thought the reason was that he could communicate with others not just play alone. He thought he could always compete with others and had the impulse to do his best in that way. Kyle

played a lot of Asian games, including Chinese games, Japanese games, and Korean games. Figure 4-3 illustrates Kyle's gaming history with his own drawing and my retyped piece as well.

Kyle's choice of games was to a large extent affected by some of his friends. He did not play *WoW* before but heard a lot about it. During the two months when I worked with him, he often played *AION*, a Korean MMORPG, which was very like *WOW* according to Kyle. However, he thought the graphic design was more refined in *AION*. Furthermore, he had some good friends who met regularly online playing *AION*.

Kyle could not help comparing *WoW* to *AION* whenever he was asked about his thoughts about *WoW*. It was introduced to him by his best friend who was from mainland China. The game setting was very similar to *WoW*. Kai was excited to tell me that more *WoW* players switched to *AION*. He thought the graphics were more sophisticated and refined in *AION.* The *AION* players could spend more time working on the details of their avatars. Sometimes, they may make the characters more like themselves while looking at their own pictures. At the very beginning, there were only Asian players. Later, when the English version was launched, more English speakers began to play AION. He said people even grouped in the game based on their nationality. Kyle usually played AION with a group of Chinese friends including his best friend there. He used voice chat while communicating with them speaking Chinese.

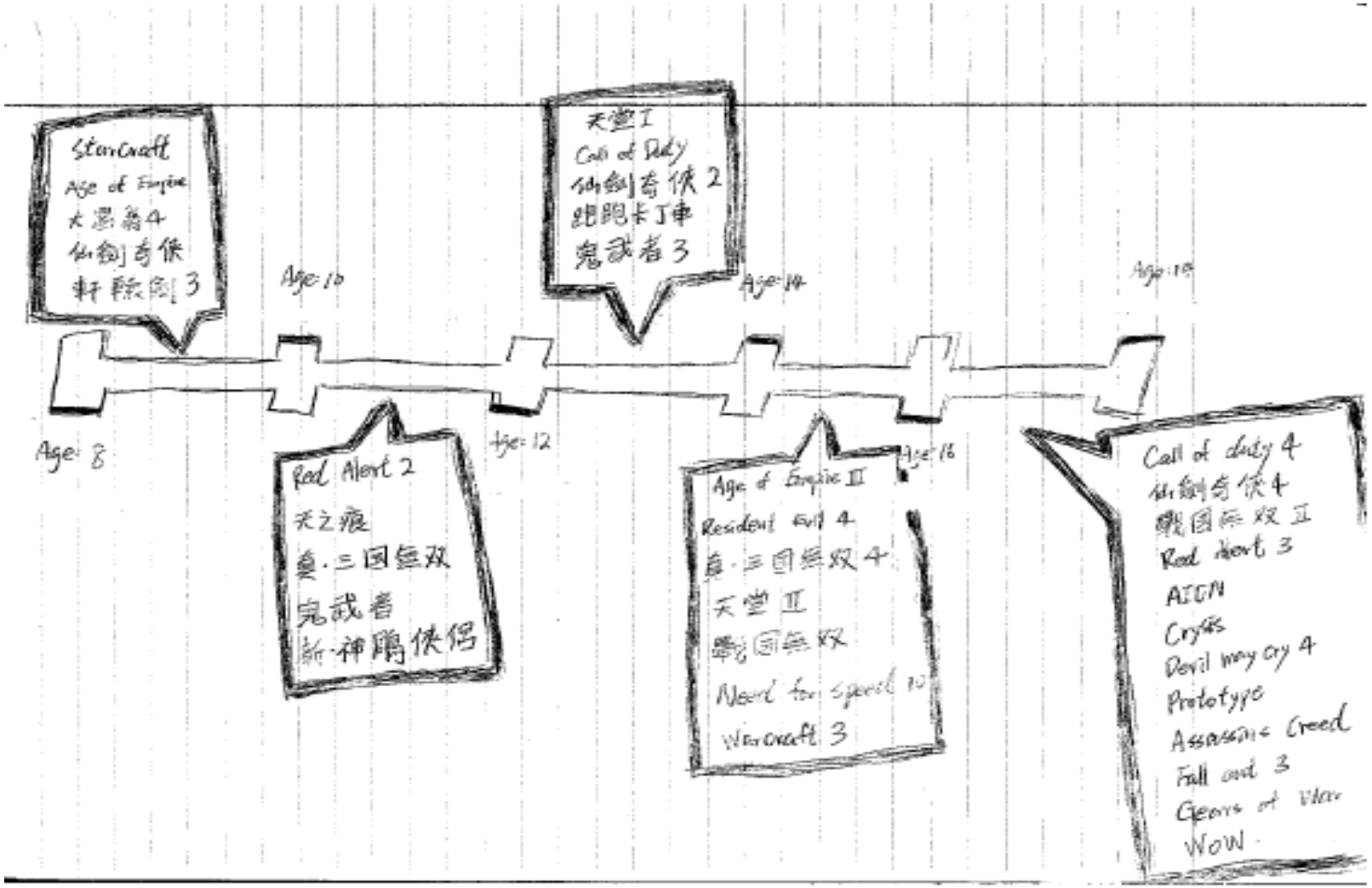


Figure 4-3. Kyle's gaming history.

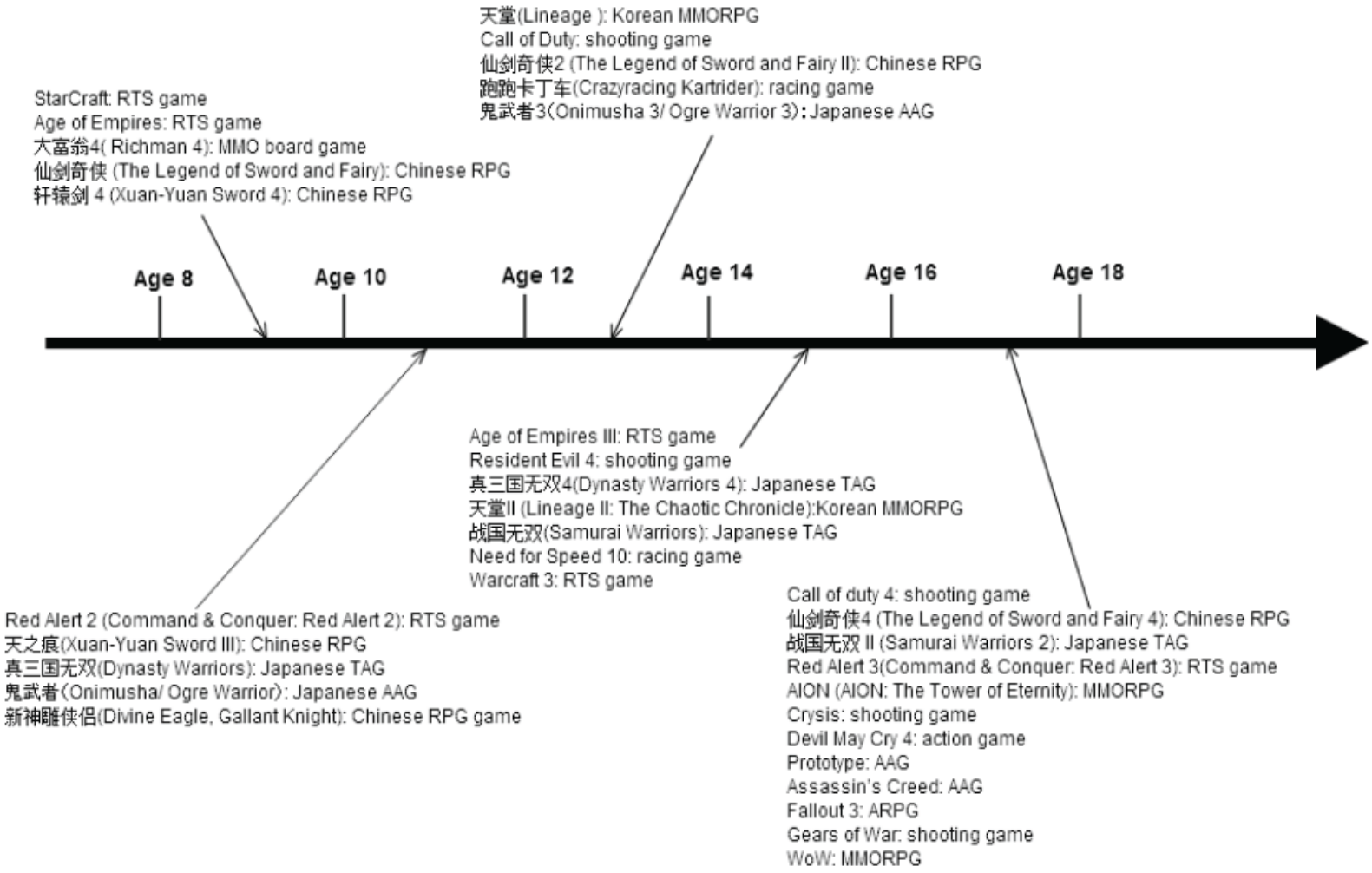


Figure 4-3. Continued

Asked about the connections between gaming and schooling, Kyle said it depended on what games they were. He exemplified *Call of Duty 5*, saying it was related to history. He found that it was about the War between Japan and the US during WWII. He learned the WWII history and later he found there were connections to the history course. He mentioned some words he acquired in the games were helpful:

> There are some military terms or what they say...those words...You probably....have some terms you don't know...like helicopter. But, you play the game and you see the helicopters and you know how they are like. You know their functions...what they're for. So, when the teacher talks about that, you know it (08/26/2009).

Kyle recalled that he was "forced" to learn some terms like *pathology*, *molecular cloning*, and *genetic engineering* when he played *Prototype*. There were some names about viruses, which he could not avoid in this game:

> There are many terms. Sometimes you don't want to listen to them. But, they are always there, you can't escape. You just keep hearing them, and finally you may know what they are. Or it might be a key word. If you don't know it, you may not be able to understand the entire game. If you look it up, you get it. The words are about biology, you can connect them to your course work... Though the game doesn't teach you the formulas, but it's very useful as long as you learn some words in it. (08/26/2009)

In terms of English learning, besides vocabulary, Kyle mentioned he learned grammar in communicating with others in gaming. In his further explanation, I came to understand what he meant the way of communication: "From the way they talk, you can learn how they express themselves" (08/26/2009). The communication he referred to was not only interacting with other players but also interacting with the

game per se: “They (NPCs) will talk. If you can’t understand, you can’t go. You don’t know what the missions it (the game) gives you” (08/26/2009). He acquired some cyber language, especially acronyms in playing games:

> Americans like using acronyms. There is a lot of cyber language. I might look some up...like “ASAP” I came across before. I didn’t know that at the very beginning. Then, I saw it for times and I figured it out. I can also learn some similar languages while chatting with my American friends in chatting...like BRB, be right back (11/11/2009).

Kyle usually did not use headphone to chat with others, because he thought he typed faster. He said voice chat was noisy but there might be players from the whole world who spoke various Englishes. Even though he himself was an English language learner, he preferred listening to “correct English” in the PC games with American pronunciations. He would like to listen to the games while playing, because he thought that was also a part of the games. Especially, when he played PC games, there were some quests given without any subtitles. Rather than checking the quests in Chinese or watching the videos online, he chose to listen to the games to figure out the problems. About writing in games, he stressed that it was a kind of informal writing with a lot of acronyms and cyber language. He thought reading in the games occurred when he read the story lines in the games:

> Because like some consol games, it would be fun as long as you read the story line. If you play those shooting games, you have no idea what’s going on. If you just simply follow the quests, you know you need to kill some stuff but you don’t know why (08/26/2009).

Outside of games, his reading activities included reading walkthroughs on the game Websites. Usually, Kyle would read the materials online before he discussed

the fights with other players in the game. He thought today's online games tended to make people collaborate since it was impossible for a single person to finish some certain quests. Kyle viewed reading in the games as a kind of "reading." But, he added that reading the storylines or plots is more "real" reading and reading chats was not formal reading since the language was very casual.

Kyle identified himself as that type of student who read only for exams and did not usually read a whole book. Asked about his general reading, Kyle said almost all his reading was online. He visited some websites about games both in English and Chinese. With respect of printed books, he only read for exams and usually not the whole book. For those assigned books by his teachers, he would go online to read others' reflections and the key points for a general idea. He made it clear that this was just for those books he was not interested in but had to do so for passing exams. He liked reading comic books and was not interested in reading the assigned books except one must-read in his summer reading: *The Catcher in the Rye*. He thought the language was quite colloquial and they were some swearwords, which was not surprising just like the language he came across online.

Kyle picked up some oral English, which was used by his friends in everyday life. Sometimes, he looked up some words that he came across in chatting with other players:

> In chatting…their talk. Sometimes, the meanings I got in the dictionary are not what they mean. But you'll finally figure it out seeing the words many times (08/26/2009).

Kyle thought learning “how to communicate with other children better” (11/11/2009) was a part of his English learning experience in playing games. Then, he added that playing online games helped improve his interpersonal relationships:

> You’ll find that you make a lot of friends online and you become to understand what American people say (08/26/2009).

Kyle said he was introduced to Greek mythology when he played *Demigod***.** There were a lot of gods in the game. Though it did not give him much deep information about each god, he felt he acquired a lot of cross-cultural information.

Besides the friends he knew online, Kyle made many friends who played games in real life:

> Because many people play *CS* [*Counter-Strike*], you may ask them if they play it too. Of course, only boys...Just like Americans like talk about football, we talk about games. All the people can form a team to play it [*Counter-Strike*] (08/26/2009).

He often mentioned that he used to “study” games with his best friends, with whom he played *AION*. He would talk to his friends in school to set a schedule to play together after school. Or they would use MSN to connect when they went home. Gaming became a main topic among his friends and they might not talk about anything but gaming. Sometimes, he would reject playing with those who he thought would not keep playing a game for a long time. Kyle had his own criteria of choosing a friend playing together that the friend should have perseverance and consistency and from whom he could see his/her “potential.”

It was interesting that Kyle mentioned he learned to tell a person’s moral quality in playing games.

> You can see a person's characteristics. One saying is like...tell a person's moral quality in playing games. This is a saying among Chinese players. You can see a person's attitude and personality. Some people are kind, you can tell. They give you armors. Some are not nice. For example, we just knew a player. He sold a stuff in AH, auction house. His price was 20 million. When someone in our legend asked him about it, he said it was 30 million. He's not honest and was kicked out by us (11/11/2009).

Talking about studying and game, he thought studying to some degree was just like playing games, because attitude was the most important. In comparing schooling with gaming and schooling, Kyle categorized himself into those who liked playing games versus others who liked studying:

> Because the stuff learned in school is boring. But if you play [games], you'll feel you're on the scene. You just want to finish the quests, so you have to understand (what's going on). You'll make efforts to learn the important stuff in the game. If at school, your goal is just to pass the exams. For those who like study, they won't [be satisfied by merely passing the exams]. They will compete with others, thinking about getting As. In fact, we who like playing games are just like those who like study. We also want to compete. In this competition, you want to learn more than others. But games are more exciting and relaxing than schooling. And it's fast [to grasp]. What you read in the games might be related to the history or other subjects. You might read more easily. When the teacher talks about the stuff you find in the games, you'll be more interested. Then, you'll pay attention and learn faster than others (08/26/2009).

Generally, he did not think studying and gaming were conflicting. But sometimes, if there were important fights, he might put games first.

Kyle's voice about *WoW*

Kyle noted that doing the quests was most helpful for English practice in *WoW*, because he had to understand the objectives and what he should do to finish the

quests. Even though he did not read each word, he had to grasp the main points. He compared the quests in *WoW* with those in *AION*. He liked the main points in each quest being highlighted and having a link in *AION*, which was more efficient in reading. He felt he practiced fast reading in playing *WoW* since he should find the objects quickly and finish them. As vocabulary, he felt it was not so difficult since he had been playing about three or four MMORPGs in English. Besides language skills, he thought experience of playing MMORPG was very important to play *WoW*.

Concerning the possibility of using *WoW* for the classroom teaching, Kyle thought teachers might use the reading materials in the quests to engage students in reading. However, they should be asked to read the whole quests and be tested in order to urge them to read. To maximize the opportunities for ELLs, Kyle suggested more audio materials should be added into the game for students to practice listening. Besides some suggestions to improve the game per se, he believed there could be some interventions provided by teachers. For example, teachers should test students their quest reading like in reading comprehension, asking them the functions and purposes of some spells. In addition, the teacher might divide students in groups to playing so that they could be urged to use English either in text chat or voice chat.

He emphasized using games like *WoW* in the classroom was to take advantage of communicating in gaming:

> I think the most you learn in a game is to communicate while chatting with others. You'll find a lot of new stuff like new words in chatting. In

> chatting, you need to respond when others talk to you. In real life, you may be afraid to talk to others if you're new here. But you can [talk] online. Nobody knows me and doesn't know who I am, so I can respond. If you don't understand, you can use the dictionary (11/11/2009).

Associating with *AION*, another Korean MMORPG he was playing, Kyle suggested that a function of "audio reading" could be added for English language learners to create more listening opportunities. For classroom use, he added that the teacher could assign students who speak different languages as their first language to play in a group. Thus, all the students would be "forced to use English, either in text chat or voice chat" (11/11/2009).

I did not see Kyle use any swear words in *WoW*, in which he only had very limited communication with other players. However, he used swear words in Chinese in playing *AION* with his friends. He thought it was natural to do that and it was a part of the gaming experience.

Mark: A Savvy *WoW* Player

Mark was a 16-year-old male 10th grader when I met him in the summer of 2009. Unlike the other three participants who were new to *WoW*, Kyle's game play was not centered on questing. Instead, he remained actively engaged in raiding and chatting with others through text message.

Background

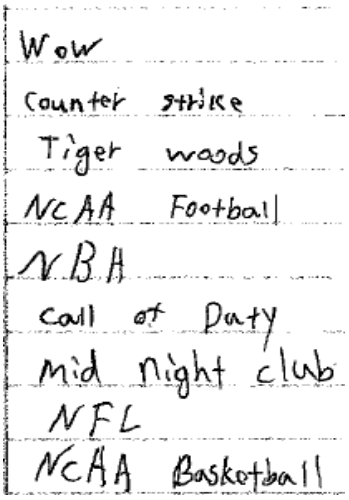
Mark had been in the U.S. for almost seven years at the time of the study. After finishing third grade in China, he came to the U.S. to live with his parents and his elder sister, who had been in the U.S for several years. His parents owned a

local Chinese grocery store and spent a lot of time in the store running their business. Most of the time, Mark and his sister took care of themselves. Mark often hung out with his friends, most of whom were Americans. He could understand and speak Chinese well, but he could no longer read or write Chinese any longer. Mark spoke English to his sister and used English and Chinese interchangeably with his parents. Like many adolescent boys, Mark was not only interested in games but also in computers. During one observation, Mark once got a phone call from his dad, who needed Mark's help to fix his laptop.

Mark was in an ESL pull-out class when he just came to the U.S. He exited the ESL class after one year. When asked about his school performance and Florida's comprehensive assessment test (FCAT), he said he was not a "fan" of school. He only knew he had passed the exam in 2009 but did not care about the exact scores. He had As, Bs, and Cs in his grades but not Ds. He showed me one newsletter about FCAT from his high school, saying that only 40% of the students passed the exam this year. He was satisfied the scores as long as he could pass FCAT.

Mark did not even remember when he started playing video games, simply saying probably when he was very little. Mark's sister told me that he played "*Paopao Tang*" (*Crazy Arcade*), a multiplayer game in Chinese when he was in 3rd grade. Mark was adept at that game and attained a very high level. When asked to draw a timeline of his gaming history, Mark could not recall the specific time when he played each game. Instead, he listed all the games he played during the last five

years since middle school. As the list below shows, sports games and shooting games were two kinds of games Mark liked most. Besides *WoW*, he described *Counters-Strike* as "a gun game to shoot around" (07/24/2009). *WoW* was the only MMORPG he listed.



WoW: MMORPG
Counter-Strike: shooting game
Tiger Woods: sports game
NCAA Football: sports game
NBA: sports game
Call of duty: shooting game
Mid Night Club: racing game
NFL: sports game
NCA Basketball: sports game

Figure 4-4. Mark's gaming history.

Mark spent a lot of time playing *WoW*. In my first visit in July, 2009, Mark told me his accumulative time in *WoW* had been 77 days, which meant he had his characters spend 1,848 hours in the virtual world of *WoW*. He was very proud that he spent only one week to level up from 70 to 80. In Mark's words, he got "addicted to it." While leveling up from 70 to 80 during the Christmas break in 2008, he even kept playing for about 36 hours and only slept probably for five or six hours. During summer vacation in 2009 when I worked with him, he often stayed up late. However, Mark said he seldom talked about *WoW* with his friends at school, because *WoW* was "a nerd game." Despite saying, "they [those who play *WoW*] just sit there 24/7 to play *WoW*," he admitted that he sometimes did that too.

When asked about his purpose of playing *WoW*, Mark said he played for better gear. The game was fun and he could sell his account to get money. During my observation in summer, he said he planned to sell out his *WoW* account. When he was at level 70, someone wanted to give him $1,300. He felt a little regretful that he had not sold it at that time, because he could buy another account with $300 so that he would earn $1,000.

Mark had eight characters in *WoW*, of whom the highest was level 80 and the lowest was 11. He played the 80 level warrior most. The main activities Mark was involved in *WoW* were chatting, raiding, and PvP (player vs. player) battling. Mark chose his characters in Alliance, because he thought the Horde characters looked like ghosts. He liked multitasking while playing *WoW*. He watched TV, listened to music, made phone calls, and sent messages to friends while playing *WoW*. So, Mark did not want to organize raids since a raid leader needed to know a lot and keep communicating with other players while organizing a raid. Most of the time, he chose to be a raid assistant.

Mark's voice about *WoW* experience

To the question whether it was possible to connect *WoW* to his school, Mark said nothing but reading. He said teachers told them to read books, but he could read the quests. To him, there was so much information in each quest. His point was that someone had to read if he wanted to play *WoW*. Mark said the reading amount in *WoW* was really big. He said if he put them in books, he probably had

read about ten to twenty books just in the game. He added that there would be more if chatting were included. He estimated there would be a hundred books with a hundred pages long for each. He described the rich content of the books as below:

> Chatting, questing, raiding, PvP, patch notes, warrior stuff, getting advice from people, telling people what to do, guild message, getting a group for an instant, asking for help from guildies about questing, helping other guildies, trade stuff like put in an auction house, sell stuff and buy stuff, read about how the talent points work, learn how to play your class, learn when expansions come about, read about expansions like where is starting questing place... just everywhere. I have six different class characters. Basically, think about every character...you have to read about how they work, learn about their talent points, how they [are] casting spells...So think about it. That's like a lot. Every character has over 20 to 30 spells casting. Every one of them is like long...I believe right now at level 72, I have to do over about 800 quests...to level. Level 72 to 73, between that, that's about 800 quests to do. You saw how long a quest is, the reading part (08/02/2009).

Though Mark did not like reading, he thought reading in *WoW* occurred unconsciously. He emphasized reading a lot was a must for a top level in *WoW* just like studying hard to be a lawyer or a doctor. He compared *WoW* with *Counter-Strike*, a shooting game he enjoyed:

> You want to play, read. You don't want to play, don't read. That's up to you. That game [*WoW*] is not like *Counter Strike*. *Counter Strike*... you just...you don't read anything. You just buy your gun, start go out and shoot, shoot, shoot. This one is like you're living on your own life. If you want to be a doctor, be a doctor. You wanna be a lawyer, be a lawyer. But, before you get there, what do you have to do? Go to school. Same thing with this. You wanna be a good hunter, you wanna be a shitty hunter, you wanna be a level 80...What do you have to do? Read through the quest and do it. So, basically, also counted as a study. It's like studying for a lawyer. You have to practice, practice, practice to get to the top level you want to be. I mean, look at those, you want to work

> in McDonald's, you don't have to do anything. You want to be a level 10, you don't have to do anything. Just like that... you want to go to the top, then work at it. You don't want to go to the top, don't work (08/02/2009).

Mark felt that he was "forced" to learn while playing *WoW*. He had to read a lot since he wanted to play the game:

> If you want to play, you have to read a lot of things basically. Like... if you don't talk or even if they do...How about like I just come to America? If I want to read, how can I read? I have to learn English,' cause when people explain either by talking to you or they will just type stuffs to you. They're not likely to translate to another language to you. Basically, let's see.... move to the left....first I don't know what that means...But in the middle of the fight I saw everyone moved to the left. So I move to the left. Oh, I know what that means. Basically, people would know that…For people that actually don't know what it means. It basically forces you to...When you mean by force...force you to learn English (07/24/2009).

He mentioned that he needed to read a lot of texts in doing quests:

> The quests are just texts. But 20 percent of the quests come with an item. Like...he'll say go to blablabla, use this item on a dragon, you'll go there, you'll click on the dragon and click on the item. The item itself before you look for the dragon, they don't give you any hint. They just say take the dragon...what kind of dragon we're talking about, I have no idea. So, you have to go through the quest log. He's gonna say a blue-scale dragon ...he's gonna say it's around Storm Wind. So, basically, you'll go around Storm Wind, look for a blue-scale dragon, so you can take some to finish the quest…Let's say... you get a quest from Iron Forge, he tells you deliver this envelop to Storm wind. All you see is an envelope. You can open, you can do anything. If you don't read the quest that tells you go to Strom wind...All you see is an envelope. What can you do with an envelope? You don't know where you're gonna take this envelope. You have to go and read the quests. The quest is gonna say take this envelope from Iron Forge to Strom wind. The envelope is not gonna say that. The envelope is just gonna like that...nothing right there. (07/24/2009)

On the one hand, Mark emphasized that reading was very essential in playing *WoW*; On the other hand, he had his own ways to avoid reading in order to finish the quests faster. He downloaded some add-ons that helped him finish his quests in an easier and faster way. Those add-ons included a database of quests and told Mark where he should go for what exactly:

> I have add-ons that tell me where the quests are. That makes things faster. But if you don't have a good computer, you just...read. Just see what you have to do. I have add-ons,'cause my computer is good. So I download add-ons that help me where every quest is and shows on the map. Like... there would be a bomb on the map, that's where I have to go to kill stuff. It's [Having add-ons] faster. Like this druid, if I play, I can level him from 70 to 80 in like...less than a week. If you tell my reading, that probably take me over a month (08/02/2009).

Mark said he often went online to read about some fights. Usually, he visited *Wowhead*, a *WoW* information database. If he wanted to know how to kill a "boss," which means a non-player opponent in the game, he just needed to put in the name of the boss and could find the boss's information. He showed me what he read about the information of Emalon, a raid boss:

> Basically, it tells me how Emalon is like and what will happen at what time. If I am DPS [Damage per second, a class whose role is to deal damage], I need to watch for that. If I'm the raid leader, I should explain the fight to others after I read it. But, all the people here played it before, so it's no need to explain it. In some new raids, it takes us about four or five hours to kill a boss. Sometimes, it even takes us the whole week to fight for that boss" (07/24/2009).

Mark needed to check the whole raid. He would know what bosses there were. Then, he just clicked on the boss he wanted to know for more information. After reading the information, Mark usually watched other's videos on YouTube. He just

wanted to know how others played. Another Website Mark visited was *Tankspot*, where he could find how others' comments on how to be a good tank, whose role is to soak up damage. However, Mark said he did not make any posts online, because he thought others would not read them. He did not join the discussion on the discussion boards either. Instead, he usually discussed the strategies with others in a guild.

Chapter Summary

This chapter presented a profile of four case studies, which depict each participant's background, game history, and their comments on *WoW*. Though Fei, Jim and Kyle were new to *WoW*, they three had been playing other video games for many years. Mark was a veteran *WoW* player, who had reached the maximum level. The participants' visions of *WoW* provide a thumbnail sketch of their gaming experiences. In the following chapter, I describe the literacy practices the four participants were engaged with in *WoW*.

CHAPTER 5
FINDINGS

Overview

This study is about L2 literacy practices four adolescent ELLs were engaged in with *WoW*. Pivotal to the findings is the need to rethink the definition of "literacy" in the study, which suggests effective functioning in situated social practices through meaning making across various modalities (texts, images, symbols, numerals, sound, movement and so forth). This definition is made on the basis of L/literacy (Lanksher & Knobel, 2006) in a multimodal environment and game literacy (Gee, 2007a). This chapter addresses the answers to the research questions, namely, what L2 literacy practices the participants were engaged in within and around *WoW*. The findings range from looking at the gaming activities and the literacy activities to examining the literacy practices that the participants were engaged in. To exemplify the literacy practices, four scenarios from the participants' game play are included. Also, a host of snapshots are incorporated to illustrate the details.

Gaming Activities, Literacy Activities, and Literacy Practices

To review briefly, this study differentiates among gaming activities, literacy activities, and literacy practices. "Gaming activities" are the activities directly observed in the participants' game play process. "Literacy activities" suggest "observable units of behavior" (Barton & Hamilton, 2000, p. 7) where literacy plays a role. "Literacy practices" refer to an abstract way of "utilising literacy" (Barton & Hamilton, 2000, p. 8).

Differentiations among gaming activities, literacy activities, and literacy practices provides a bottom-up lens through which "literacy" in gaming can be specified, contextualized, and conceptualized as well. Though findings are presented in three themes, it is noted that the three themes are closely related. Literacy practices are dependent on literacy activities, which are based on gaming activities. The way in which the findings are presented in this chapter is depicted in Figure 5-1.

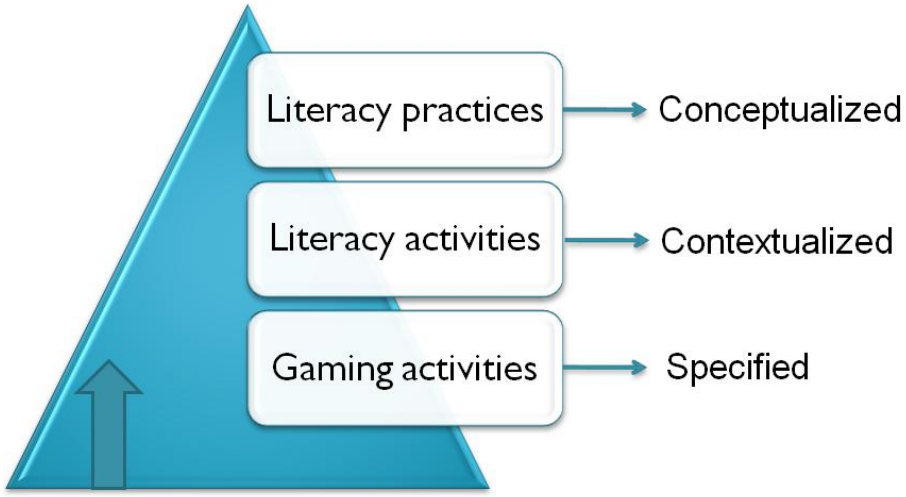


Figure 5-1. Gaming activities, literacy activities, and literacy practices.

Gaming Activities within and around *WoW*

In order to have a full view of the participants' L2 literacy practices in *WoW*, I first summarize the participants' gaming activities within and around *WoW*. All the gaming activities within *WoW* can be seen in Appendix L and Table 5-1, respectively. Due to the length and complexity, the table of gaming activities within *WoW* is put in Appendix L. In the two tables, I lay out all of the gaming activities observed and compare them across the four participant's game play. These activities are by no

means an exhaustive list of all in *WoW* but rather are illustrations of the findings gleaned from the four participants' *WoW* play.

Table 5-1. Gaming activities around *WoW*

Gaming activities (around *WoW*)	Participants (maximum level)			
	Fei (lvl8)	Jim (lvl12)	Kyle (lvl11)	Mark (lvl80)
Reading on *WoWhead* and *Tankspot*				✓
Googling NPCs			✓	
Checking *patch info* on *WoW* Web				✓
Watching YouTube videos about *WoW*				✓
Total number of each participant's activities	0	0	1	3

From Appendix L, it is seen that six categories of gaming activities within *WoW* were generated from the 51 activities. Of all the within-*WoW* gaming activities, doing quests was the main activity found in the three novice players' *WoW* play. It included acquiring, accepting or rejecting, processing, completing, and tracking quests. Second, the activities that involved the virtual money transactions were categorized in managing economy. The most common economic activity in this virtual world was that the participants bought items from and sold items to merchants, who are important NPCs in *WoW*. In addition, Kyle used banks to save some items. Mark used auction houses to buy some items. Third, to survive and become competitive in the world, the participants needed to equip their characters and accept training. All of the activities that contributed to character management are listed in the table. Fourth, *WoW* provided a platform for social interacting. Compared with the three novice players, Mark had far more interactions with others through text chat. Fifth, in the game play process, the participants kept exploring the

virtual world by checking their character information, the map, the calendar, some icons, the NPCs, and other players' avatars. Sixth, there were some other activities including travelling, resurrecting the avatars after death, and finding a home in the virtual world.

As can be seen from Appendix L and Table 5-1, the participants' within-*WoW* gaming activities far outnumbered around-*WoW* gaming activities. There were 51 literacy activities identified within *WoW* play but only four gaming activities around *WoW*. From the numbers of within-*WoW* gaming activities, no significant difference was found, especially among the three novice players. Fei and Kyle participated in 35 within-*WoW* activities. Jim participated in 34 activities within *WoW*. The most advanced *WoW* player, Mark, however, was involved in the least amount of gaming activities. Nonetheless, the fact that the more advanced player was inclined to participant in less gaming activities should not be oversimplified to say that he was less engaged in literacy activities than the novice players. Indeed, Mark was engaged in other ways. Compared with the three new *WoW* players, Mark had fewer activities in doing quests but more in socializing, exploring, and checking.

In contrast with various within-*WoW* gaming activities, around-*WoW* gaming activities were rare and only found in Mark and Kyle's game process. As shown in Table 5-2, out of the 51 activities within *WoW*, 16 of them were found in all four participants' play. However, around *WoW*, no gaming activities occurred in more than one participant's game play. It can be concluded that around-*WoW* gaming

activities tended to be more optional in the game play. In this study, only Kyle and Mark had some gaming activities around *WoW*. Kyle searched an NPC on Google when he had difficulty finding an NPC. Mark checked patches on *WoW* website and he mentioned he used to watch *WoW* videos on YouTube to preview some raids. Also, the experienced player, Mark, was involved in more around-game activities.

Table 5-2. Summary of gaming activities in four participants' *WoW* play

	Within-*WoW* gaming activities (Total: 51)	Around-*WoW* gaming activities (Total: 4)
4 participants	16	0
3 participants	14	0
2 participants	8	0
1 participant	13	4

The section below presents two activities, "doing quests" and "socializing," which are the main activities found in the three novice players and the experienced player's game, respectively. The description of the two gaming activities is provided to exemplify what the paritipants actually did while doing these activities in the game.

Doing Quests

Doing quests is fundamental in *WoW*, especially in the novice players' experience. Table 5-3 shows the number of quests that were accepted and finished by each participant. As the table suggests, Mark's main activity was not doing quests. In the observations, he only accepted one quest and finished four. Obviously, the other three participants who were new to *WoW* did much more quests. Mark said he had done a lot of quests before, but he would not do the quests when he reached the level 80. Instead, he would run the big raids and fight

for the gears. His main activities were chatting and collaborating with other players in raiding.

Table 5-3. Quests accepted and finished by the participants

Participants	Quests Accepted	Quests Finished
Fei	28	20
Jim	18	13
Kyle	45	25
Mark	1	4

Doing quests starts from acquiring quests. Most of the quests can be acquired by clicking on the NPCs with a yellow exclamation mark over their heads, who are called quest givers. Compared with quests given by quest givers, acquiring quests from wanted posters and quest items was not common. Of all the four participants' *WoW* play, there was only one instance when Kyle's avatar, Midiron, came across a wanted poster. In that case, Kyle also recognized the yellow exclamation mark, which indicated a quest was available. As Figure 5-2 shows, each quest consists of three parts: the description, the objectives, and the rewards. The description provides a background story of the quest; the objective tells the player exactly what s/he should do; and the rewards indicate what the player will get upon finishing the quest. It is noted that the quests in *WoW* are set in narrative. For example, in the quest "Wanted: 'Hogger,'" the description unfolds a story, informing the player where the gnoll, Hogger, is, why the gnoll, Hogger, is wanted for a bounty hunting, how the player will earn the reward, and what he should provide for the reward. In his stimulated recall, Kyle described that he read the rewards first, then the objectives,

and the description about the quest at last. In reading the rewards, he looked at the icons of the rewards and how much gold he would get. In the process of acquiring the quest, Kyle first read the symbol (i.e., the exclamation mark) to recognize the quest. Then, he read texts (i.e., the text in the pop-up of the quest) interwoven with symbols (i.e., the rewards), and numbers (i.e., the amount of gold).

Figure 5-2. Accepting quest “Wanted: ‘Hogger’” from a wanted poster.

The three novice players accepted almost all the quests they found. Kyle did not read the quests carefully but accepted all of them whenever the quests were available. Unlike Kyle, Fei and Jim were willing to take time to read the quests. Fei was used to moving the cursor to read the quests line by line. Jim often murmured while he read the quests. As mentioned above, the experienced *WoW* player, Mark, did not have game play centered on doing quests.

While doing the quests, the participants opened up their quest log from time to time to read the quests and checked the quest status. Of the three novice participants, Kyle checked his quest log most, because he did not spend much time

reading the quests before accepting them. Instead, he often checked his quest log to reread the quests and found where he should go and what he needed to do.

Social Interacting

Like many other MMORPGs, *WoW* provides rich opportunities for social interacting. The player can group with others for collaboration and talk to each other through text chat or voice chat. Unlike the three novice players who focused on questing, Mark spent most of his time chatting and raiding with other players. Mark's social interacting is depicted later in this chapter. Of the three novice players, only Jim played with another player to finish a few quests. Fei preferred playing alone and declined all invitations for dueling. There was one time that Fei accepted an invitation to join a group but he left that group soon.

In Kyle's case, there was only once that he had an interaction with another player. He met Rhimasoyer while heading to Elwynn Forest. On his own initiative, Rhimasoyer gave Kyle buffs which are beneficial spells. Kyle thanked his kind offer and left. Then, Rhimasoyer wanted some intellect from Kyle. Intellect, namely intelligence, is one of the five attributes for an avatar's physical and mental aptitude, the other four of which include strength, agility, stamina, and spirit. The chat log is excerpted below. Please note the words in angle brackets were added when I transcribed the game video.

[Unokool] says: thx [thanks]
<Unokool left.>
[Rhimasoyer] says: wait
<Unokool returned and ran to Rhimasoyer>

[Rhimasoyer] says: can i get intellect pls
[Rhimasoyer] says: ty[thank you]
[Unokool] says: npw [no problem whatsoever]
[Unokool] says: np[no problem]

A B

Figure 5-3. Buffing each other. A) receiving buffs; B) being asked to give buffs

This collaboration in Kyle's buffing experience establishes give-and-take between him and Rhimasoyer. But, on occasion, the participants' help quest was ignored. For example, Kyle initiated one question about skill learning but nobody responded. First, he clicked on the conversation balloon on the left and found different chat modes. He chose "yell" and asked where he could learn skills (see Figure 5-4).

However, nobody responded to his question. Later, Kyle happened to find that he could learn new skills from one type of NPCs, trainers. Though Kyle did not find the answers he wanted from the WoW community. His action of initiating this question suggests that Kyle did take the community as an information source and expected help from others.

Figure 5-4. Asking information in *WoW.*

Literacy Activities within and around *WoW*

Given what is known about gaming activities as the most observable activities in the participants' game process, a closer look at literacy activities is necessary before exploring the literacy practices that occurred in their game process. Gaming activities cannot be simply equated with literacy activities. This is because the former are specific and noticeable activities the participants did in playing *WoW* and the latter are those activities which are contextualized in but not necessarily unique to the game.

Literacy Activities in Visual Presentations

By asking what the participants did to accomplish each gaming activity, I found the literacy activities corresponding to the gaming activities, which can be seen in Appendix M and Table 5-4. The two tables show the complexity and plurality of literacy activities in the participants' *WoW* experience. Eighteen literacy activities and 3 literacy activities were found within *WoW* and around *WoW*, respectively.

Of all the literacy activities both within and around *WoW*, it is obvious that reading was an activity that occurred in most of the gaming activities both within and around *WoW*. Reading was a process of decoding texts, symbols, and numerals. Decision making was the literacy activity whose occurrence was second to reading. The participants made decisions when they were faced with more than one options. For instance, they decided whether to accept or reject a quest after reading. The third oft-observed literacy activity was discovering, which includes discovering problems and resources as well. The fourth literacy activity was comparing. It is noted that decision making was related to but still different from comparing. Comparing happened when the participants had two or more concrete objects in the game to consider how they were similar or different. For example, whenever they finished a quest, the participants compared two rewards provided. Then, they chose one reward upon comparing them. It is fairly certain that comparing was always followed by decision making. However, some decisions were made without comparing if no specific objects were involved. Some of other literacy activities, for example, questing, repairing, competing, and recovering, as particular literacy activities that happened in the game world, demonstrate the participants' understanding of the game process.

According to the frequency of each literacy practice that occurred in the gaming activities, the tables and pie charts above visualize the occurrence of all the literacy activities within and around *WoW*. Table 5-5 highlights 18 within-*WoW* literacy

activities: reading, discovering, decision making, comparing, interacting, transacting, locating, writing, planning, advertising, recruiting, negotiating, searching, questing, competing, repairing, recovering, and resurrecting. However, there were only three around-*WoW* literacy activities found in the participant's game play: searching, reading, and watching video. As seen in Table 5-5 and Figure 5-5, reading was the core literacy activity within *WoW*. Almost one third of all the within-*WoW* literacy practices involved reading. With regard to around-*WoW* literacy activities, searching and reading occurred more frequently than watching video.

Players as Readers

Since reading was found as the core literacy activity both within and around *WoW*, it is significant to know what the participants said about themselves as readers in the game world. Without exception, all the participants referred to reading texts only when they talked about their reading in the game.

As an avid player but a reluctant reader, Mark reported that he read everywhere in the game. He read quests, chat, raids, guild messages in the game; he read patch notes, warrior stuff, game updates on the Internet; he read when he got advice from others and told people what to do; he read when he traded items in an auction house, or sold and bought items.

Affected by their own understanding of what is reading, Jim and Fei did not think they read much in the game. The reading activities Jim mentioned were reading quests and reading pop-ups. He said that he might have read some pop-

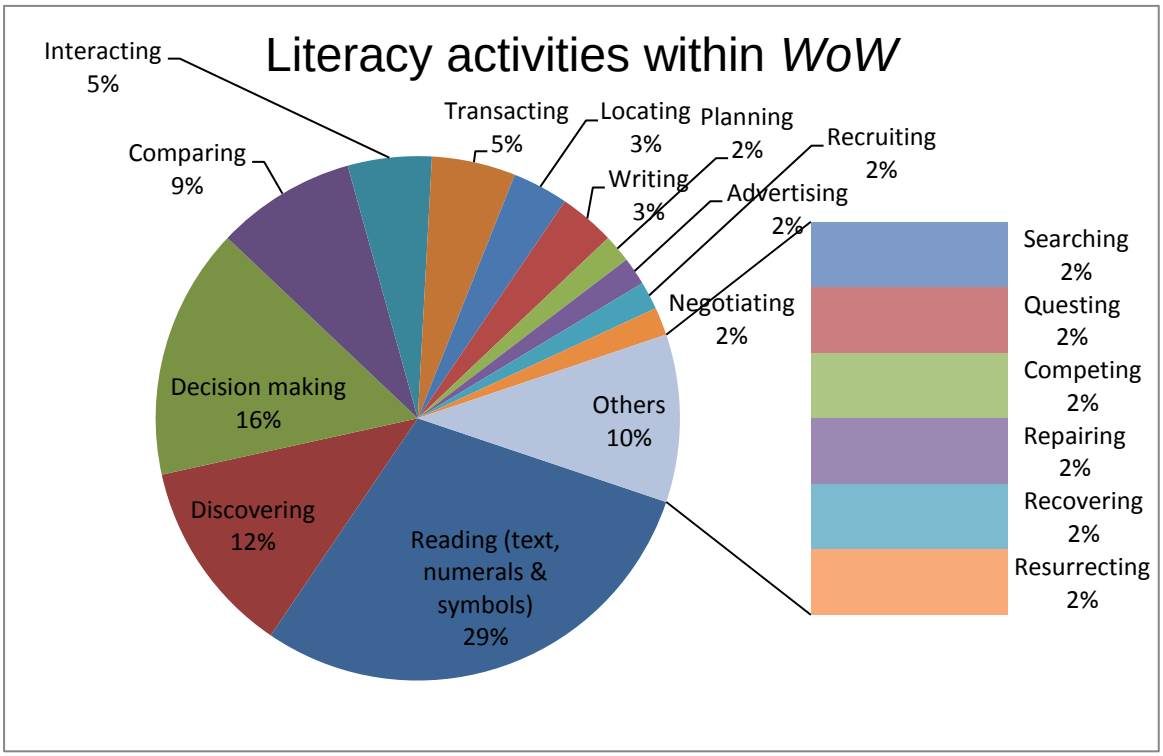
Table 5-4. Literacy activities around *WoW*

Gaming Activities (around *WoW*)	Literacy Activities (around *WoW*)
Reading on *WoWhead* and *Tankspot*	searching reading (text)
Googling NPCs	searching reading (text)
Checking *patch info* on *WoW* Web	reading (text)
Watching YouTube videos about *WoW*	searching watching video

Table 5-5. Summary of literacy activities within and around *WoW*

Literacy activities within *WoW*	Frequency (time)
Reading (text, numerals and symbols)	17
Decision making	9
Discovering	7
Comparing	5
Interacting	3
Transacting	3
Locating	2
Writing	2
Planning	1
Advertising	1
Recruiting	1
Negotiating	1
Searching	1
Questing	1
Competing	1
Repairing	1
Recovering	1
Resurrecting	1
Total	58

Literacy activities around *WoW*	Frequency (time)
Searching	3
Reading (text)	3
Watching video	1
Total	7



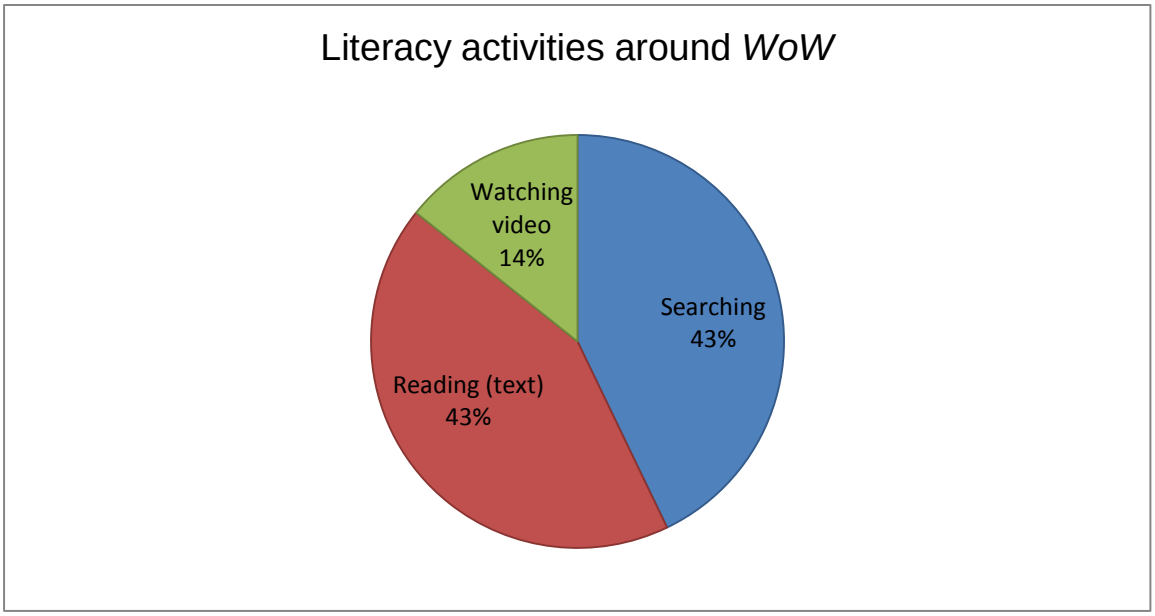


Figure 5-5. Summary of literacy activities within and around *WoW*.

ups at the very beginning but later he had an idea of how the game worked so that he could ignore some pop-ups.

Similarly, Fei did not think all the materials he read about games was "reading." He had his own definition of reading:

> Reading is to read something...I wouldn't apply to myself...that...I'm reading for enjoyment or I'm trying to get some sort of information out of the text. So, in case I'm playing video games, I'm not reading...I'm not actually having fun reading that text. I'm having fun playing the game. So, I wouldn't count that as reading (08/06/2009).

As for reading in the games, Fei mentioned the style of the texts in the games were short and simple. He could learn some words he usually did not learn "in like normal conversations" (08/06/2009). Fei thought the purpose of reading related to games was not to read but to play. Later, he added: "I mean...like reading Wikipedia...that counts as reading for me, 'cause I'm looking for information" (08/06/2009). Following this idea, he said reading walkthroughs was reading but he still did not think "reading the texts in the game" was really reading. It seems that he had a clear boundary between playing and reading. He did not think he "read" anything while playing even though he did decode the texts for the information which was necessary for playing.

Kyle said language skills were necessary in playing the game. Kyle thought reading to understand was the most important language skill in gaming, because he could type if he did not want to use voice chat. Kyle thought language ability was one of the basic skills a player must have while playing games. In *WoW*, doing the quests, especially reading the objectives was most helpful to his English practice. Kyle said it was not true that he did not use his brain and only clicked the mouse only in playing as his parents assumed. He emphasized that language ability was quite essential in playing some games like *WoW* rather than the merely reactive ability. Kyle thought doing quests was most helpful with his English. Kyle found reading the quests in *WoW* helped his speed reading. He summarized that if a word that he did

not know appeared many times, he might guess whether it would be the place where he should go.

Literacy Practices within and around *WoW*

Literacy activities demonstrated above are instances of literacy practices in the four participants' *WoW* play. To answer the research questions, it is important to shift from looking at a wide array of literacy activities to examine ways in which the participants utilized literacy in their game process. In answering the question in what ways each literacy activity was utilized, I found that literacy activities can be inducted into four literacy practices: information seeking, strategizing, problem solving, and socializing. All of the around-*WoW* literacy activities such as searching, reading, and watching video are related to seeking information. In other words, information seeking is the only literacy practice that occurred both within and around *WoW*. The table below reflects an overview of all the literacy practices within and around *WoW*. The table also includes literacy activities that literacy practices are grounded in.

Table 5-6. Summary of literacy practices within and around *WoW*

Literacy activities	Literacy practices (Frequency)
Reading (text, numerals and symbols) Discovering (problems and resources) Searching Watching video	Information seeking (32)
Planning Comparing Decision making	Strategizing (15)
Questing Competing Repairing Recovering Transacting Locating	Problem solving (10)

Table 5-6. Continued

Literacy activities	Literacy practices (Frequency)
Writing Interacting Advertising Recruiting Negotiating	Socializing (8)

Based on the occurrence of the literacy activities, the frequency of each literacy practice is also summarized in Table 5-6. The pie chart below provides a visual display of the frequency of each literacy practice both within and around *WoW*. As a literacy practice whose occurrence was almost 50%, information seeking was the main literacy practice. Given the predominance of reading in information seeking, reading as a literacy activity was of paramount importance in the participants' game play.

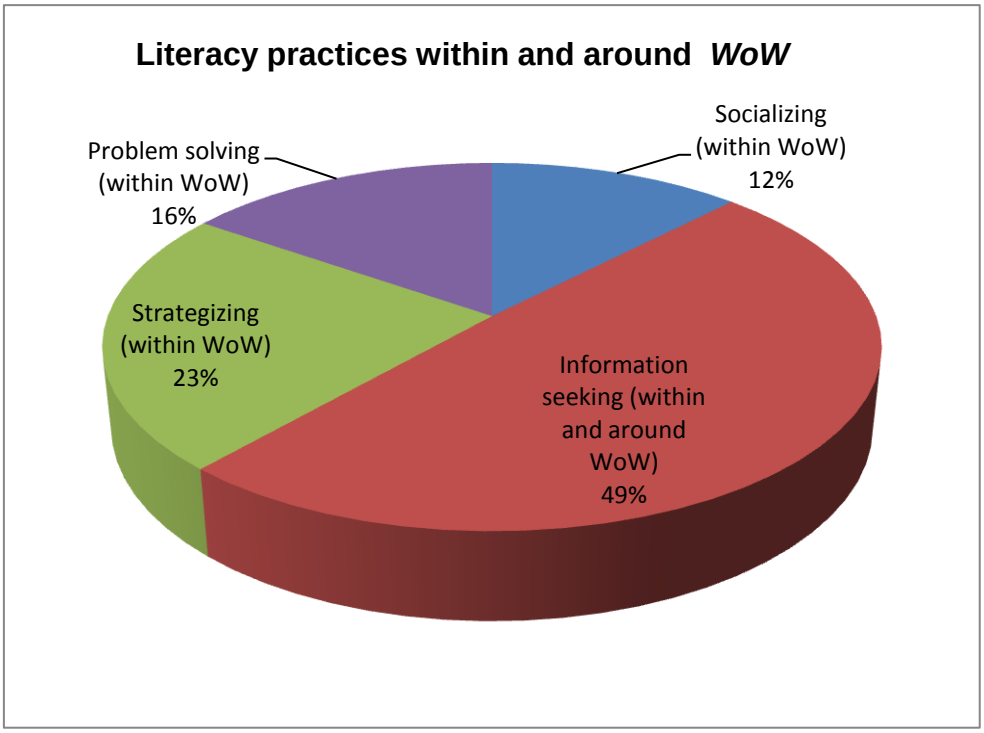


Figure 5-6. Literacy practices within and around *WoW*.

For the sake of clarity, four scenarios featured in each literacy practice are elaborated below. The four scenarios are also respective examples that are salient in the four case studies.

Information Seeking

Information seeking is a broad conception, which reflects a series of attempts made by the participants to obtain information both within and around the game. The information embodies both the problems the participants needed to solve in the game and the resources they could use to solve the problems. The information is multimodal and could be presented in the form of texts, numerals, symbols, or videos.

Information seeking was the only literacy practice that was found both within and around *WoW*. Reading, as the main activity of information seeking, was pervasive in the participants' game process. They read texts, and/or symbols, and/or numerals when they were involved in all the gaming activities: questing, chatting, managing characters, managing economy, randomly exploring, and checking. Around *WoW,* information seeking in Mark's game play happened when he read the Websites about *WoW,* checked patch information on *WoW* Web, and watched *WoW* videos on YouTube. Though both Fei and Jim mentioned that they turned to outside sources for game information in playing other games, I did not have a chance to see their literacy activities around *WoW*. Of the three novice *WoW* players, only Kyle used Google to search a NPC's information. Kyle's experience of

using the Internet in the game process is a typical example of seeking information around the game.

Kyle: Seeking help from the Internet

As Kyle said, he did not interact with others a lot during my observations. He focused on doing quests by himself. The most impressive activity he had was that he sought help from the Internet in the game process. While doing the quest “Speak with Jennea,” he had difficulty locating an NPC named Jennea Cannon. When he arrived at a portal where he thought Jennea should be, he read the information in red, saying “You must reach level 58 to use this portal” (see Figure 5-7).

Figure 5-7. Arriving at an inaccessible portal.

Realizing he could not find Jennea through the portal, Kyle had to get out of the building and check the mini map on the top right. He clicked on the question mark on the map, which brought out a pop-up indicating “Jennea Cannon” (see Figure 5-8).

Figure 5-8. Finding Jennea on the map.

Following the map, he took the old way but was taken to the same portal where he arrived before. Kyle got out of the building, studied the map again. However, he found the map still directed him to the same portal. Then, he visited Google and typed a string of words “wow, jennea, location.” He clicked the first research result and found the Webpage as shown in Figure 5-9. He clicked the image of Jennea Cannon on the left of the Webpage. He saw a bigger image of Jennea Cannon and no further details about where she was.

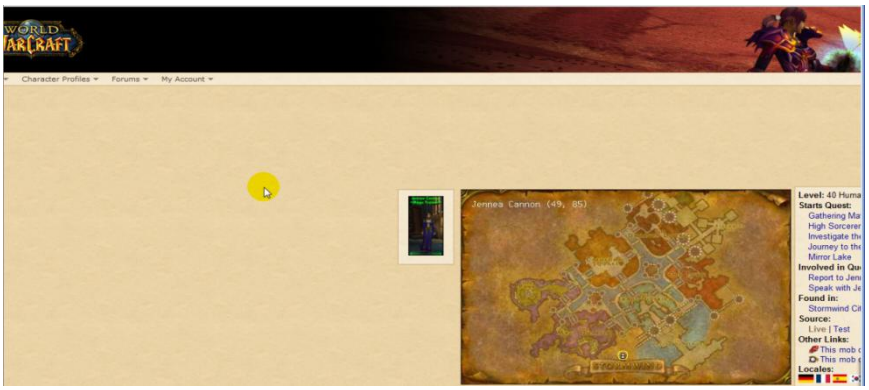


Figure 5-9. A Web concerning the NPC Jennea Cannon.

He did not find any useful information he wanted. He went back to the Google page and clicked another research result. It turned out to be some brief information

about Jennea Cannon and two maps, saying that she was a Mage Trainer in Stormwind City (see Figure 5-10).

Figure 5-10. Another Web concerning the NPC Jennea Cannon.

Other than that, no more further details were provided. Though the information he searched did not tell Kyle where Jennea was exactly, it informed Kyle of the city where Jennea was. Kyle knew he should be on the right track and went back to continue his exploration. He took the old way again and got to the wall where he arrived before. He went upstairs, found another portal he could go through, and finally found Jennea. The quest “Speak with Jennea” was completed.

Figure 5-11. Finding the NPC Jennea Cannon.

Later in the stimulated recall, Kyle explained nothing in this search result actually revealed an important message to him. Since there was no concrete or further information about Jennea, he realized it should not be very difficult so that no one would ask the question. He believed he should go back to take a further look. Though he did not find the information he needed directly, he was enlightened to locate the NPC at last. His knowledge about under what conditions a game question might be asked online helped him determine how he should solve the problem.

In this scenario, Fei used the Internet as an out-of-game information source to help his gaming process. Reading was the main activity he participated during the process of information seeking. He read both text and images in the game feedback, the map, and the websites he located via Google. In this example of information seeking, other literacy practices such as strategizing and problem solving also occurred. Kyle made a decision of seeking help from the Internet when he found there was a difficulty in finding the NPC Jennea Cannon. His main task in this scenario was to locate the position of the NPC, which indicated he was involved in a problem solving process as well since information seeking is only the means but not the end.

Strategizing

Planning, comparing, and decision making are categorized as strategizing. This is a literacy practice that is involved in arranging and determining strategies. On the macro level, strategizing determined how their avatars were manipulated in the virtual world. On the micro level, some specific strategies that applied to game

play were found in the participants' game process. Four specific strategies were frequently applied by the participants.

First, exploring was a strategy the participants often used when they had difficulties locating a certain place. Exploring was an individual learning process. For Fei, the biggest problem was the direction in which to search. He did not think the map was very helpful and sometimes he was trapped in a building. Fei said "persistency, just randomly try[ing]" (10/30/2009) was his way to look for something. To explain "randomly," he added that he knew he had to be in one certain area. Jim also felt that he had a hard time finding some places whose names were not clear. Sometimes, he randomly searched everywhere and happened to find some places that he was looking for in this manner.

Second, searching for useful information online was effective. To my question of how he figured out something he did not know in playing the game, Kyle simply answered "Google it" (11/04/2009). Kyle said his strategy to figure out the rules he did not know was to Google them online just as he did when he could not find the NPC. Though all of the other three participants mentioned they had prior experience of seeking information online for game play, I only observed Mark who checked updated patch notes on the *WoW* web.

Third, reading with a purpose could save the participants' time on questing. Kyle usually skipped the quest descriptions in reading quests. He said he only focused on the reading objects to know where he should go and what he should do. From the perspective of a player, this was an effective way that saved time for

playing since reading was not the end in playing *WoW*. As mentioned previously, Mark installed some add-ons for access to a database of quests, where he could get the key information of the quests rather than reading all the details. Although this strategy could be interpreted as a way to avoid reading, it is also true that reading was a means not the end in their game play.

Fourth, collaborative play with other players was a strategy that all the participants used more or less. Exchanging information often occurred in Mark's game process. He not only asked for but also gave information. Kyle and Fei, who did not interact with others much, also asked questions in their game play. Alhough no feedback was given to their questions and they finally figured out the answers by themselves, they did attempt to use the game community as a source of information. Jim's strategy was to turn to the other experienced player, Sileo (pseudonym) for a shortcut. What made Jim most frustrated in *WoW* was that finding some places took much of his time. With Sileo's help, Jim was brought to the right NPC directly without "randomly" running here and there. In the scenario below, Jim's encounter with Sileo exemplifies how collaborating with others was effective in the game process.

Jim: Encountering a friendly adventure

Unlike Fei and Kyle who did not have much interaction with other players, Jim, who was not talkative in real life, had a friendly encounter with another player, Sileo. During my last observation of Jim's game play, with the help of Sileo, Jim finished two quests. In the descriptions below, "Jim" and his avatar's name "Lylefun" are

used interchangeably. I divided the whole friendly adventure into five parts. In each part, I listed the game log. Also, my descriptions of Jim's game play (words in italics) are also integrated in the game log.

Part 1: Accepting Invitation. Sileo, a level 12 Troll Rogue invited Jim to join a group and asked Jim if he needed help. Jim accepted the invitation and asked what help Sileo could offer. Then Sileo defeated Jim in a duel and the group was disbanded. Again, Sileo invited Jim to join a group and Jim accepted it. The game log below shows Jim's encounter with Sileo opened this friendly adventure:

[Sileo] has invited you to join a group.
[Sileo] says: need help
[Lylefun] says: for what?
<*Sileo has defeated Lylefun in a duel.*>
[Sileo] says: lol [laugh out loud]
[Lylefun] says: =p
[Sileo] has invited you to join a group.
[Sileo] says: =)

Figure 5-12. Meeting Sileo.

As the game log above shows, Jim's collaboration with Sileo started with Sileo's invitation to join a group. Socializing with Sielo was the basis of Jim's further collaboration with Sileo to finish two quests.

Part 2: Getting to know each other. Jim asked which level Sileo was at. Sileo answered the question and found Jim might not know how to see others' levels, he taught Jim to click on his character portrait for the information. Sileo said he was seven years old and asked how old Jim was. Sileo defeated Jim again in a duel. The game log concerning how they knew each other is excerpted below:

[Lylefun] says: what lvl[level] r u?
[Sileo] says: 12
[Lylefun] says: unfair duel:)
[Sileo] says: click on me
[Lylefun] says: o i c [Oh, I see]
[Sileo] says: im 7 years old and i beat oyu [you]
[Sileo]: you <*Sileo corrected his typo.*>
<*Jim typed "17 =p playing" but he did not submit the message*.>
<Sileo defeated Lylefun in a duel.>

Figure 5-13. Getting to know each other. A) asking Sileo's level; B) Sileo teaching how to see others' levels; C) Sileo bragging his win in the duel.

Part 3: Finishing the first quest "Zalazane." Jim mentioned that he needed to finish some quests. Sileo volunteered to follow Jim and helped to kill the

monsters. Again, Sileo offered help and Jim said he was going to kill a boss, which was a generic term for an NPC. While Sileo led Jim to look for Zalazane, Jim died twice. Sileo kept killing the monsters and waited for Jim to come back to life. In order to finish the quest “Zalazane,” Jim found he still needed to bring Zalazane’s head to Gadrin. Though Sileo did not respond to Jim’s question about where Gadrin was, Jim found he should go back to the town to find Gadrin. Sileo taught Jim how to use a hotkey “X” to get down into the water while swimming. Following Sileo, Jim found Gadrin and finished the quest “Zalazane.” The game log provides more details about the interactions between Jim and Sileo. Please note the chat command “whisper” in the chat log below indicates the message was sent as a private one.

[Lylefun] says: o well nice meeting ya gong finish some quest
[Sileo] says: o k
<Sileo went with Lylefun and helped him kill the Monsters like Clattering Scorpids>
…
[Sileo] says: you need help
[Lylefun] says: yea gonna kill some boss
[Sileo] says: ok i know were [where] he is
[Lylefun] says: help me find zalazane
…
[Sileo] says: follow me
[Sileo] says: hes in re
[Sileo] says: d
[Sileo] says: done
[Lylefun]: yay
[Sileo] says: your done [you’re done]
[Lylefun] says: who i speak 2[to] 2[to] finish da [the] quest

Figure 5-14. Jim asking for help.

[Lylefun] says: where gadrin at u[you] no[know]
[Sileo] says:[The loot] were [was]small
[Sileo] says: lol [laughing out loud]
[Lylefun] says: lol [laughing out loud]
[Lylefun] says: going back to village 2[to] finish da[the] quest
<Lylefun and Sileo were crossing a river. Sileo wanted to tell Jim how to get down the water by punching "x" key. Jim thought "puch" was not a typo. Instead, he thought Sileo did not know how to spell the word correctly.>
[Sileo] says: puch x
[Sileo] says: hey
[Sileo] says: puch x
[Lylefun] says: lol
[Sileo] says: lol
[Sileo] says: lol

In part 3, Sileo offered two kinds of assistance. One was that he showed Jim the way to find an NPC. The other one was to teach Jim a technique of getting down into the water while swimming.

Part 4: Asking for Sileo's further help. Jim asked Sileo what he wanted to do, but Sileo said he did not know. Then, Jim checked the quest log and read "Thazz'rill's Pick." Having known that Sileo did this quest before, Jim asked help from Sileo to finish the quest. Jim chose to follow Sileo, who told Jim that he had

another character at level 25 and wondered if Jim could wait for him to bring that character back. Sileo seemed to be eager to help and even said “plz” (please) asking Jim to wait for him come back and appreciated that Jim would be willing to wait for him.

[Lylefun] says: hat[what] u wanna do now?
[Sileo] says: what
[Lylefun] says: what u wanna do now?
[Sileo] says: i dont know
<Jim checked the quest log and reread Thazz’rill’s Pick>:
[Lylefun] says: have u done thazz ril pick quest
[Sileo] says: yea
[Lylefun] says: wanna help me on it
[Sileo] says: hey
<Jim chose to follow Sileo>
[Sileo] says: i have a lv 25
[Sileo] says: level
[Lylefun]: nice
[Sileo] says: i will bring him but hes[he’s] far away can you whait[wait]
[Sileo] says: wait
[Sileo] says: plz [please]

Figure 5-15. Sileo offering another higher level character to help.

[Lylefun]: yea
[Sileo] says: ok ty[thank you]

As shown above, the friendship established between Jim and Sileo in a short period of time was demonstrated by Sileo offering further help, which was also valued by Jim.

Part 5: Finishing the second quest: "Thazz'rill's Pick." After almost six minutes, Sileo brought his 25-level Tauren Hunter, Stormy back. Jim asked whom he should talk with to finish the quest. At first, Sileo joked saying Jim should talk to him. Jim reread the quest. Later, Sileo led Jim to where Thazz'rill was and helped Jim finish the quest.

<Jim waited for Sileo to come back. Sileo came back as Stormy with his pet: spike>
[Stormy] says: its Sileo
[Stormy] says: im
[Lylefun] says: nice
[Stormy] says: ty [thank you]
[Stormy] says: lets[let's] go
<Jim invited Stormy to join his group.>
[Lylefun] says: kk[ok] u[you] lead

[Stormy] says: ok
[Lylefun] says: is that ur[your] pet?

Figure 5-16. Sileo returning with pet.

< Stormy is a 25 level Tauren Hunter. Stormy helped Lylefun with the quest "Thazz'ril's Pick">
[Lylefun] says: kk[ok] I got it who i talk 2 [to]
<Jim opened the quest log and reread the quest.>
[Stormy] says: me
[Lylefun]: lol [laugh out loud]
[Stormy] whispers: hey
[Stormy] says: lol [laugh out loud]
<When they met Foreman Thazz'rill, Stormy reminded Lylefun this was whom he was looking for and asked him to talk with Thazz'rill."

This is the only time that I observed Jim had a long interaction with another player during his *WoW* play. With Sileo's help, Jim finished two quests. Jim's encounter with Sileo presents a one-way contribution from a more skilled player. In recalling, Jim said that playing with Sileo made his game play easier, since Sileo had played it before and knew more than him. Though he could figure out what he should do reading the quest, Jim thought talking to Sileo was more helpful than merely reading.

In this scenario of strategizing, Jim read his quests, completed two quests with Sileo's help, and kept interacting with Sileo through text chat. So, in the process of strategizing, he was also involved in the other three literacy practices: information seeking, problem solving, and socializing.

Problem Solving

Problem solving suggests a literacy practice that the participants utilized the information and resources they sought to accomplish some game-specific tasks. These tasks included questing, competing, repairing armors, recovering health, buying, selling, auctioning, and locating. Problem solving here only indicates the

final step in a larger problem solving process. For example, doing quests, which is a larger problem, includes acquiring, accepting/rejecting, processing, completing, and tracking quests. Problem solving in this example only indicates the stage of processing quests, which is termed "questing." Doing quests is viewed at the macro level, while questing at the micro level. In a quest which requires the player to deliver a certain item to an NPC, the player should discover the quest by clicking an exclamation mark, which is a part of information seeking. Then, problem solving is a process involved in the action of "delivering" upon comprehension of the quest. In other words, the participants should click the NPC as indicated to finish "delivering." In this section, Fei's continuous efforts to resurrect his avatar are a salient example of problem solving. Other gaming activities that he participated in while resurrecting his avatar, were typical ones in which other players were also engaged.

Fei: Trying with persistence

Fei's avatar, Blubolt, died repeatedly and frequently in the observation on August 6th, 2009. During about 68 minutes of game play, Blubolt died six times. In *WoW*, player characters can be resurrected after death. Fei kept resurrecting Blubolt again and again, continuing his *WoW* adventure. Below I narrate what happened to Fei's avatar, Blubolt, during the six deaths. This is an example of problem solving as a literacy practice in *WoW,* which is also a process intertwined with information seeking, strategizing, and socializing.

Fei accepted a quest titled as "A Rogue's Deal." In his stimulated recall later, Fei said he generally got the idea that he needed to deliver a letter to an innkeeper

but he had not read the details. Fei opened his backpack and checked what items he had. He clicked on “Forest Mushroom Cap.” The pop-up informed that how the cap could be used and how much it was worth (see Figure 5-17). When he found

Figure 5-17. Checking items in backpack.

Blubolt’s health was low as indicated in the health bar in green, Fei let Blubolt sit down to recover health (see the avatar in the red circle in Figure 5-18).

Figure 5-18. Recovering health.

After Blubolt’s heath was regenerated, Fei clicked on the map on the top right to check where he was (see Figure 5-19). When he saw theTirisfal Farmers, he fought with them. He got two coppers as loot after fighting with the farmers. Then,

Blubolt was killed by one Tirisfal Farmer. Fei clicked on the exclamation mark flashing on the bottom right, which brought a pop-up about death:

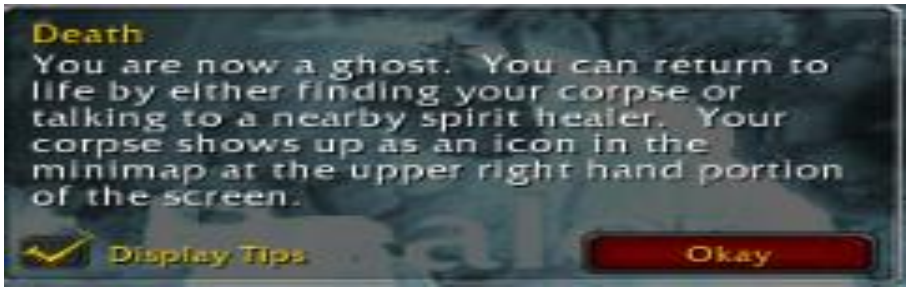


Figure 5-19. Pop-up about death.

Fei found a spirit healer and then clicked on the NPC. Another pop-up appeared:

Figure 5-20. Pop-up about resurrection.

Then Fei accepted resurrection. In the mini map on the top right, Fei clicked a flashing exclamation mark and found it indicated where the corpse was. Following the mini map, Fei found Blubolt's corpse and resurrected him (see Figure5-21)

A B

Figure 5-21. Finding corpse. A) finding corpse on the map; B) accepting resurrection.

Right after Blubolt was resurrected, he was killed again by a Tirisfal Farmer. While the ghost of Blubolt passed Stillwater Pond, an exclamation mark flashed on

the bottom right (see Figure 5-22 A). Fei noticed that and clicked the exclamation mark. Then, a pop-up appeared (see Figure 5-22 B):

Figure 5-22. Pop-up about swimming. A) reading a flashing exclamation; B) reading a pop-up.

As one part of the in-game help system, this pop-up taught the tip of swimming in *WoW*. Fei swam across the pond and later found the corpse again and resurrected Blubolt.

Figure 5-23. Recurrecing Blubolt.

Again, Blubolt was killed right after resurrection. Following what he had done before, Fei resurrected Blubolt. Unfortunately, a Scarlet Warrior killed Blubolt. This was Blubolt's 4th death. Fei clicked on his spellbook and then his achievement points. He did nothing but just read the two pop-ups. As a part of his game play, Fei

frequently checked his own state. Fei opened his quest log and read through the quest of “Night Web’s Hollow.” He dragged down the bar on the right and moved the cursor from the left to right while reading the quest (see Figure 5-24).

Figure 5-24. Checking quests.

Fei found the corpse again and resurrected Blubolt. Then, Fei found one Tirisfal pumpkin, which was one item wanted by one of his previous quests. While Blubolt was collecting the pumpkin, a Tirisfal Farmer approached Blubolt and killed him. Fei did not to rush to resurrect Blubolt. Instead, he opened his quest log, browsing all his quests on the list. Then, Fei found the corpse and Blubolt came back to *WoW* of the living. Fei opened his backpack, clicking on “Forest Mushroom Cap” again. While Blubolt was running in the forest, he was killed again by a Scarlet Warrior. This was the sixth time that Blubolt died. Fei had Blubolt resurrected immediately. Then, he opened the world map. Another player character, Vileen invited Blubolt to join the guild Descendants from hell. However, Fei declined the invitation.

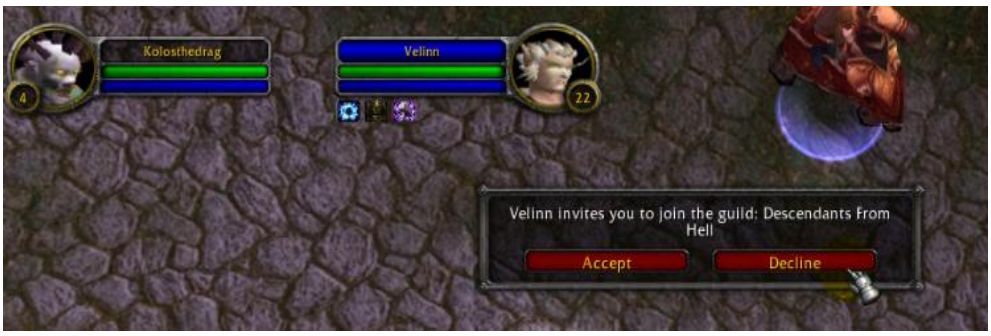


Figure 5-25. Declining guild invitation.

When Blubolt arrived in a town, he met Archibald Kava, a Leather Armor Merchant. Fei checked his equipment, including Flax Gloves, Frayed Belt, Frayed Pants, and Flax Boots in the window of character information. Fei repaired Frayed Belt spending five coppers and another ten coppers respectively on repairing Flax Boots and Frayed Pants. Fei dragged Flax Gloves to repairing area but a pop-up appeared, saying, “You don’t have enough money.” So, he began to sell his armors.

Figure 5-26. Checking equipment.

Figure 5-27. Selling armors.

Then, Fei kept selling and repairing his armors until all of the copper was spent. While selling and buying, Fei kept reading symbols and numerals, comparing the items, and computing his coppers. Table 5-7 summarizes his other transactions. After checking his equipment again, he found one Young Night Web Spider and began to fight with it. An alert popped up accompanying with audio instruction, telling him that he was too far away to fight with the spider. Fei moved Blubolt forward to fight. After slaying three spiders, he received loot "Skicky Ichor" and "Bug Eye."

Table 5-7. Fei's transactions in repairing armors

Selling	Repairing	Total
Apprentice's Pants (1 copper)	None	26 copper
None	Apprentice's Robe (15 copper)	11 copper
None	Frayed Braces (5 copper)	6 copper
None	Flax Gloves (6 copper)	0 copper

Figure 5-28. Too far away from fighting the spider.

Within 68 minutes of game play with a focus on resurrecting, Fei conducted 26 gaming activities in the *WoW* world while resurrecting his avatar six times. The flow chart (see Figure 5-29) demonstrates the gaming activities, which are differentiated with different colors. The table on the right shows the literacy activities that occurred in the 27 gaming activities. In the example of problem solving as one literacy practice, reading was still the core literacy activity, which happened in all of the gaming activities. Please note that "selling item" is one kind of economy management activity and "rejecting guild invitation" is categorized to "interacting" in the chat. All the activities that are pertinent to questing are categorized as "doing quest."

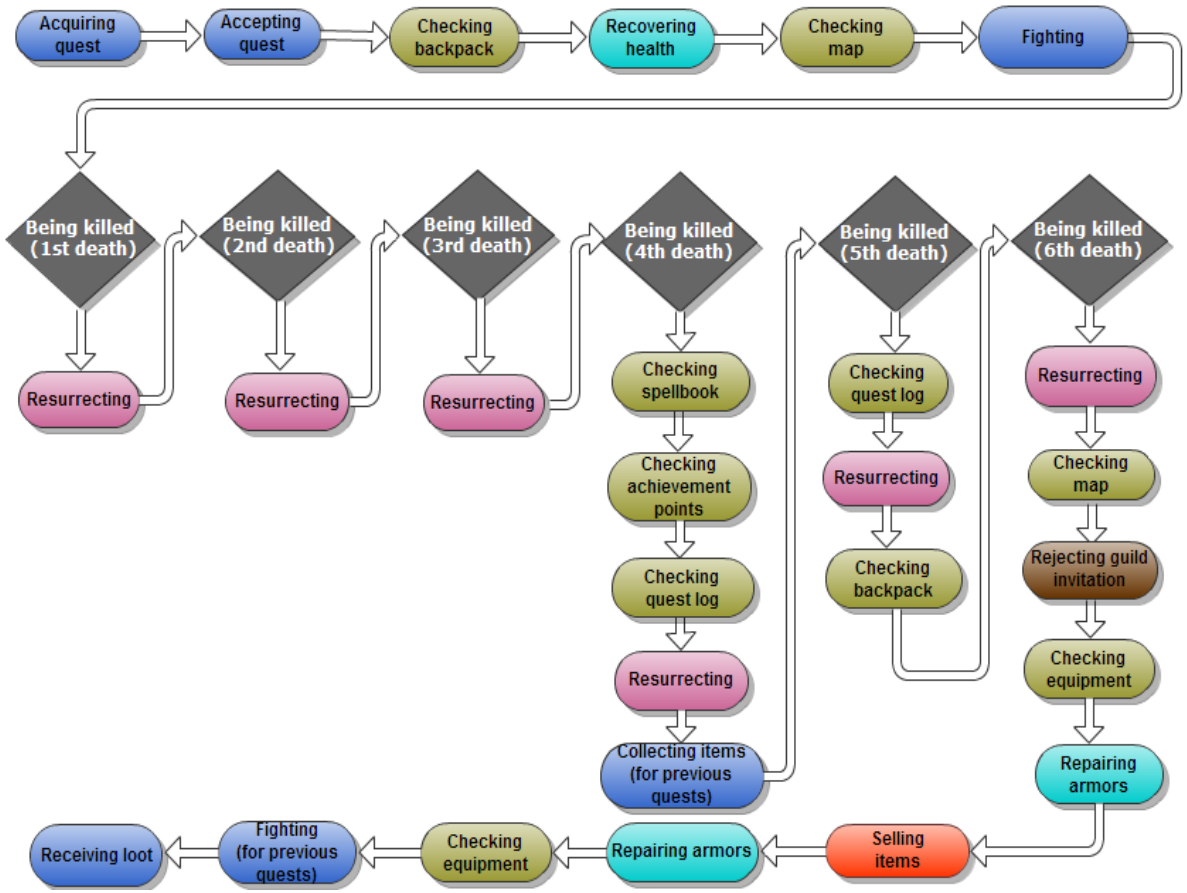
All of the gaming activities shown in the flow chart occurred while Fei resurrected his avatar. They were typical activities not only in Fei's but also in the other two novice players' game experiences. Though rejecting the guild invitation did not suggest much communication with other players, Fei was involved in a brief

interaction in *WoW*. As the figure above shows, checking was the most frequent activity, whereas managing economy and socializing had the least frequent occurrences. The activity of "checking" generally indicates Fei read different information sources in the game to ensure that the avatar functioned well. Though Fei admitted that he felt somewhat frustrated when he saw his avatar die again and again, he never thought of quitting in the game process. Fei explained he knew it was possible for him to do that. Also, he wanted to achieve higher levels and expected it would be more challenging and fun at higher levels.

In solving the main problem of resurrecting his avatar in this scenario, Fei was also in the process of dealing with other literacy practices. Choosing to keep trying when his avatar was killed for six times was the major decision he made throughout the whole process. He read text, symbols, and numerals while questing, resurrecting, managing the avatar, repairing armors, and selling some items. Though there was only a brief interaction in rejecting a guild invitation, he did socialize with other players. Hence, any of the other three literacy practices, including strategizing, information seeking, and socializing, was never singled out when Fei focused on the main problem of resurrecting his avatar.

Socializing

In the gaming world, socializing occurred when the participants interacted with or intended to interact with other players through text chat or voice chat, which are commonly characterized by situated language use. Without exception, each



Gaming Activities	Literacy Activities
Doing quests (6)	discovering, reading(text, numerals, symbols), decision making, planning, questing
Checking (10)	reading (text, numerals, symbols)
Managing characters (2)	discovering, reading(text, numerals, symbols), comparing, reparing
Resurrecting (6)	discovering, reading(text, numerals, symbols), comparing, reparing
Managing economy (1)	decisiong making, reading (text, symbols), locating, resurrecting
Interacting (1)	reading (text), writing

Figure 5-29. Fei's *WoW* experience.

Note: Selling items is one activity of managing economy. Rejecting guild invitation is categorized to interacting.

participant expressed a view on the significance of social interaction in the game process.

Jim, who benefited from playing with another player, said interacting with others made game player easier. He added that talking to a more experienced player like Sileo was more helpful than reading the quests, because he felt there were some random places that he had never heard about it but had to find. Jim thought playing with others was more efficient than reading.

Though both Kyle and Fei did not have much communication with other players, their explanations for restricted socializing were different. Kyle mentioned he felt reluctant to talk to others because he felt "ashamed" at a low level. However, Fei simply thought it was not necessary to play with others for the quests in the beginning. It reflects that individual variables affect socializing. With regard to socializing, Kyle attached great importance to self-esteem, whereas Fei revealed his own belief about the best way for him to play at a particular stage, which was based on his previous gaming experience. In spite of very limited interactions with others observed in their game process, both Kyle and Fei expected more socializing at a higher level. Kyle's answer to what made him feel interested in *WoW* was "just people <playing> with people" (11/11/2009). He said the NPCs were alike and there were not many changes. However, it was more interesting to play with other players since one might encounter all kinds of situations with those who played *WoW* like him. According to Kyle, he would definitely communicate a lot more if the level were higher. As for Fei, he thought there would be more occasions that he might be challenged and need help from others later. Also, Fei believed that working with others would be more engaging. Even

though he had not played in raids with other players, he anticipated that he would approach others for team work, which required some “social skills.”

In Mark’s game play, communication via text chat played a central role and the interaction with his peers was most evident. For Mark, *WoW* held social appeal to him. He said “playing alone [was] not fun” (08/02/2009). Mark’s main activity in the game process was chatting. Social interaction was the means of his game play. He joked with his friends, talked about role assignments in raids, and asked for and gave information. Mark recalled most of his friends in *WoW* were also at low levels when he began to play. They played together and tried to “figure out stuff” (07/24/2009) all the time. He described how he started playing with others:

> [when I was at] level 1, I saw many people, asking ‘You wanna quest together?’ Then, we did quests together and became good friends (07/4/2009).

For example, since level 2, he had been playing with Ananivana, whom he often joked with in the game play. They talked a lot through voice chat too. While playing SuperMark, Mark’s Hunter at level 72, he explained:

> I’m talking to Ananivana. She’s level 73 and I’m level 72. We both quest at the same pace. She...the quest I did today she did yesterday. I can find it or I can ask her where did she get it done. So she would tell me where blablabla… (08/02/2009)

The collaboration built among the game players is also manifest in Mark’s comment below:

> They would like...If I need help, they help. They need help, I help. The guild is like a big family. You need 10,000 gold, you got it. You want 5 gold, you got it. You want food, some cookers are gonna make for you (08/02/2009).

Mark knew that Ananivana was a fifteen-year-old female. Other than that, he did not know much about this friend in *WoW* who he had been playing with for more than two years. For him, chatting with game friends about their real life was "freaking creepy." At this point, Jim also mentioned that he tended not to talk about real life issues with those he met in games. This suggests that the affinity group(Gee, 2003) existed in a certain context.

Social interactions generated within the affinity group in *WoW* enhanced the participants' game play. Mark thought playing with others could make gaming more effective:

> Sometimes, I can't kill that but he helps me. Also, two work together can definitely kill that, because there are two DPS (07/24/2009).

When new raids came out, Mark tended to ask others in his guild. Though he might go online to check the raids later, he preferred getting the information from those who had been playing first. Besides, Mark received some buff from others:

> They're buffing. See? This is what Powlly gave me, which I don't have. This increases tank by 50. This is given by Christ, by 165. All of these are given by them, not mine. (07/24/2009)

Mark also offered help to others. He described what he needed to do in organizing a guild:

> I'm an officer in the guild. I have to get on and tell...all the other DPS warriors in my guild what to do, how to be a great DPS warrior, what steps you've got to go through, what's the Website you have to go on and read about warriors. Basically, all the warriors in my guild...if they need help...like how to play their class, they will come to me and ask me about it (08/02/2009).

Undoubtedly, of the four participants, Mark was the most active in socializing with other players. Mark's chat is taken as an example to understand the literacy practice of socializing in the game world.

Mark: Voice chat

Chatting was a main activity observed in Mark's game play. Mark thought communication in *WoW* was just like the way how English was learned because the players had to communicate in team work either through text chat or voice chat. Most of the time, he used text chat. Though Mark mentioned communicating via voice chat was very basic in big raids, he only used voice chat once in my observations. Unfortunately, Mark uninstalled the screen video capture program, *Camtasia* from his laptop that day, because he felt the program occupied much of the capacity of his laptop. I could not record his game play of using voice chat. In talking about voice chat, Mark mentioned how voice chat was more efficient than text chat in some raids:

> Sometimes, you get tired of typing, so you just get on that to talk. Whenever I start a raid, everybody must be on Vent [Ventrilo, a voice communication software]. For a raiding, every raid that people start, they'll be on the Vent. If you don't know the fight, you talk about it. Let's say...when a boss fight, every 15 seconds you have to run now. Here's a boss. You're tanking, tanking, tanking...every 15 seconds you have to run now, turn away from him. Some DPS, you're just doing shoot, shoot, shoot. You'll never read the chat, how would you know 15 seconds...he will say some on the chat, say DPS get out, 5 seconds left, DPS get out. All the DPS is gonna run now. No. Like for me, in tanking stuff, I'm trying best to pull all through...so basically, I'm not gonna go on read that. I'm not gonna see they play and look at chat. Also, I'm not gonna sit there typing "DPS get out". That's gonna take 5 seconds to type it out. By the time I'm typing, he's already dead. So what do I do on Vent? All I have to do is to hold on a button say get out right now. So, he'll just walk out. So, easier.

Later, Mark explained that it was not necessary to use voice chat in those small raids which might last only 10 minutes. The bosses were easy to kill. In terms of "small raids," he meant those which were not "important and hard" and might take a few minutes to finish. In that case, he said that everybody knew the fight and they did not need Ventrilo, a program used for voice communication. Also, those were raids that the players could get in whenever they wanted as long as they were at level 80. Even those with lower green gears would get in those easy raids. However, to get in a hard raid like *Ulduar*, Mark said that he would not take those people with green gear but only those with fully purple gear. In *Uldua*r, they would get on *Ven* to use voice chat. In order to let me know how hard *Ulduar* was, Mark compared it with those easy raids which might take 10 minutes, saying that it might take them about 36 hours on one boss and there were about 20 bosses in *Ulduar*.

I was wondering how he communicated effectively with other players using voice chat in *WoW*. My question about voice chat happened to open the topic of mutual respect in game play. Though Mark himself was not an adult yet, he emphasized how important it was to act like adults with responsibility and respect in *WoW*. Mark explained how it worked:

> When I'm talking, nobody is gonna talk. I only lead 10 men, I talk, other nine listen. They are all adults. They're not gonna be like...kids say...They're just gonna sit there listen to you to explain. After I explain their jobs, steps... if they have questions, they'll ask one by one. They won't be like...if two try to talk at the same time, one would stop say you go ahead. They're all adults. They'd like respect each other. Everyone in my guild, is over 21. I'm the only one that's like...They're like...say you're 21. I was like...Ok, whatever…

Mark added that he needed to have a ready check and saw if anyone wanted any help:

> Yeah, sometimes they do [ask questions]. Sometimes...I got it. I got the fight. So, I do a ready check. If everyone is ready, tank, go. If two people are not ready, I'll say what's going on guys. Do you need any help?

I did not have a chance to observe Mark lead the raid. In describing how they collaborated in a raid, Mark kept emphasizing that all the players should "act good."

Mark: Text chat

Text chat was the main activity observed in Mark's game play. Mark never stopped chatting and spent more than 90% of the time in chatting. In Figure 5-30, Mark's chat is categorized according to the chat content. There are four big categories: socio-emotional functioning; reading involvement; collaborating; and talking about fighting. In this section, a partial chat log is used to exemplify each chat category.

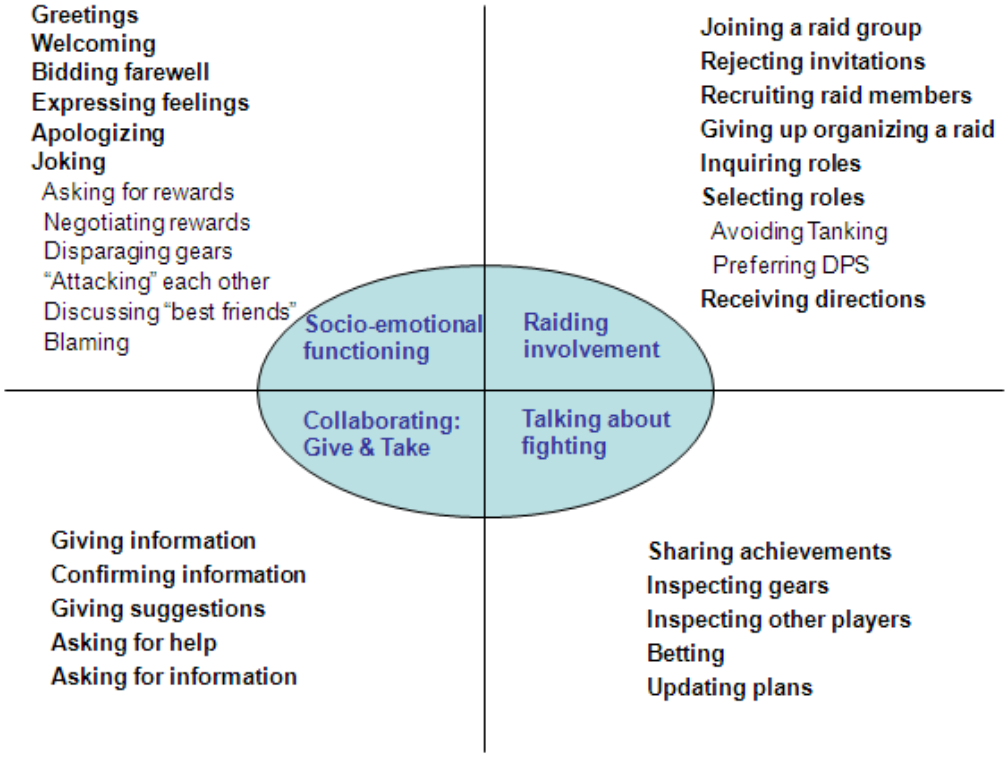


Figure 5-30. Mark's text chat categories.

Socio-emotional functioning. In analyzing Mark's chat log in *WoW*, I found that some chats such as greetings and feeling expressions were not directly relevant to fighting per se. However, those chats showed players' emotions and were essential in socializing among players. They functioned as a strong tie between Mark and his friends in the game world. Thus, I categorized these kinds of chats into "socio-emotional functioning." I choose some typical subcategories to demonstrate how Mark established interpersonal relationship with other players via chatting in *WoW*.

- Greetings

Just like communication in real life, chatting in the virtual world also opened further conversations. In greeting, Mark and his friends used some emotes to express emotions. Emotes are some commands that generate a chat message to express how the player feels or what s/he is doing. For example, some greetings in use of emotes were selected from Mark's chat log:

> You *poke* Laminia. Hey!
> You *greet* Laminia *with a hearty hello!*
> Laminia *roars with bestial vigor* at you. So fierce!

In this example, greetings were not simply a hey or a hello. Instead, Mark chose the emotes of poking and greeting with a hearty hello to make the action more vivid and interesting. Similarly, Mark's game friend Laminia answered his greetings by using the emote of roaring. The use of emotes supplemented the text chats with rich emotional expressions.

- Joking

Mark said they often joked around. Indeed, a significant proportion of text chat was about joking. The example below shows how he negotiated rewards while joking with his friends in the game.

[Laminia] whispers: ill pay you to tank heroics
To [Laminia]: 1000g and ill think about it.
[Laminia] whispers: fuck no
To [Laminia]: lol [laughing out loud]
[Laminia] whispers: more like 5g
To [Laminia]: hell no
[Laminia] whispers: or maybe 1 copper because thats all your worth
[Laminia] whispers: HAHAH!
To [Laminia]: HAHAH GIRL U GOT JOKES
[Laminia] whispers: i know
[Laminia] whispers: your lame

Laminia wanted Mark to tank. Mark said "money talk," which meant that he would tank if Laminia could pay. Laminia asked Mark to tank heroics, but Mark did not want to do that. So, he was kidding with Laminia, asking for 1,000 golds. Laminia joked with him, saying she would pay five golds. Later, she said one copper would be what Mark was worth. Obviously, Mark knew Laminia was just joking. This demonstrated that Mark and Laminia developed an acquaintance in the game.

Raiding involvment. Raid refers to a large-scale attack designed for players whose characters have reached the highest level. Raid groups can have up to eight parties, with, at most five characters in each party. Raiding was a main activity in Mark's *WoW* play. As he said, his purpose of playing *WoW* after he reached level 80 was just for better gear in raiding. Mark's conversations with his friends were centered around raiding, including joining a raid group, rejecting invitations to a raid groups, recruiting raid members, giving up organizing a raid, inquiring and selecting roles, and

receiving directions in raiding. Mark's friends kept asking him to be a tank, whose role would be to soak damage in fighting with enemies. However, Mark preferred to be a DPS (Damage per second), namely, a damage dealer to kill mobs, the non-player entities.

> [Raid Leader] [Magegam]: need another tank
> [Raid] [Pipps]: well we need another tank
> …
> [Laminia] whispers: mark stay tank
> To [Laminia]: LAMINIA STAY QUIET

In this excerption above, Magegam, the raid leader was recruiting a tank to form a raid. Laminia clicked the chat menu and chose "whisper" from the chat button to send a private message to Mark, asking him to be the tank. Mark responded with his discontent towards Laminia's suggestion, typing his answer in capital letters. Again, though no voice could be heard, all the capitalized words expressed Mark's strong opinion towards Laminia's calling for him to be a tank.

Collaborating: Give and take. Collaboration was a key aspect of socializing in *WoW*. It was common that players contributed what they knew and received what they wanted as well. Giving and taking fostered peer scaffolding in *WoW* community.

- Asking for information

> To [Ananivana]: have u read the patch notes yet?
> <Mark checked *WoW* Web>
> [Ananivana] whispers: uh i while ago i did, why?
> [Ananivana] whispers: a*
> To [Ananivana]: is it true that we will be able to buy tier shits with badges?*
> [Ananivana] whispers: I think
> To [Ananivana]: like all tier??
> …
> [Ananivana] whispers: not sure, but i heard that badges of conquest are gonna drop in heroics now

...
To [Ananivana]: oh wow thats cool but ive been turnin them into valor every time lol
<Mark visited the *WoW* web and browsed “Patch 3.2: Call of the Crusade”>
[Ananivana] whispers: lol why
…
[Ananivana] whispers: if you comeback to tank this ill pay you
…
To [Ananivana]: first i was thinking about buyin[buying] the t7.5 shoulders with 60 [Emblem of Valor] but nvm [never mind] since i can get better gears after the patch
To [Ananivana]: so i guess ill save it up
To [Ananivana]: nah ill pass
[Ananivana] whispers: damn
<Mark spent almost two minutes reading through the page about the new patch. He moved his cursor around the section “Emblem System Changes” and read the bullets one by one>
To [Ananivana]: wow so basically the heroism and valor r not that usefuafter the aptch [patch]

Later in his stimulated recall, Mark said he asked Aniavana if she had read the patch notes, because he did not want to read it. But, he still went online to read the patch information. He thought there might be some information that his friend did not know. He would choose to read what he was interested such as warriors, PvP, and PvE. While asking Aniavana the patch information, Mark visited *WoW* Web to find the patch. He read about what gear was given to him and what kind of gear he could buy with badges.

Talking about fighting. There were some other times that Mark talked with his friends about their achievements, gears, other players, fighting results and their further plans. Generally, those chats are put in to the category of talking about fighting.

To [Darfly]: this is gonna be sad if we lose
...
[Darfly] whispers: we wont

To [Darfly]: wanna bet?
...
[Darfly] whispers: yea 100 g..lol
...
To [Darfly]: lol
To [Darfly]: too late
...
To [Darfly]: cheater
[Darfly]: lol

In the Wintergrasp battle, a PvP battle between the Alliance and the Horde, Mark thought they might lose the battle to the Horde. However, Darfly did not think so. Mark proposed a bet but Darfly rejected. Later, when Darfly saw the remaining time was short and knew they would win, he asked for 100 gold to bet with Mark. Mark was not willing to do that because the result was so obvious. He called Darfly a cheater, who knew Mark was joking.

Chatting took place everywhere as the major gaming activity in Mark's game play. Mark chatted with his friends in grouping, battling, and travelling. They joked around, formed groups, coordinated raid roles, exchanged information, and were involved in various topics centered on fighting. Those text chats were delivered in informal language and with brief information. In text chats, Mark read others' messages mainly in the mode of writing all the time. Furthermore, socializing did not occur alone while Mark was chatting with others. In the chat examples above, he was involved in competing, comparing the roles in raiding, and searching patch information online. Therefore, the other three literacy practices, namely, strategizing, problem solving, and information seeking also happened in his chatting.

To sum up, four literacy practices occurred simultaneously and continuously in a dynamic process. However, without downplaying the complex interplay among the four

literacy practices, each literacy practice is delineated separately. The scenarios depicting the four literacy practices also present the four participants' salient game play. The three novice players mainly focused on questing only. Except for Jim who actively interacted with another player, Fei and Kyle played alone for quests. Kyle used the Internet to seek the information he needed to assist his game play. Fei showed his tremendous perseverance facing failures in solving the problem of resurrecting his avatar. The experienced player, Mark, spent most of his time socializing with other players through text chat.

Sense of Engagement

The four literacy practices the participants were engaged in cannot be viewed independently. What they enjoyed was a complex and dynamic process involving all of the practices at the same time. Though reading was the core in information seeking, it does not mean the participants enjoyed reading per se in the game. For example, Mark felt he was "forced" to read while playing the game. He had to read since he wanted to play the game. To Mark, reading in the game was not the end, but the means to the end. Likewise, Kyle said he had to read to understand what he should do in the game. He added reading "the objectives" was important, so he usually skipped the quest descriptions. He only paid attention to what mattered to his game play. Their emphasis on their ultimate purpose of reading for play sent me delving into the question of what brought the participants a sense of engagement in playing *WoW*. I use "sense of engagement" to pinpoint how the participants felt about their gaming experience. Mark said he enjoyed playing this game. Kyle mentioned he was excited while playing. Fei was attracted to the game and Jim thought it was fun. Based on the participants'

sharing about what brought them enjoyment, excitement, and pleasure in *WoW*, three themes were summarized to reflect what fostered their sense of engagement in *WoW*: reward, immersion, and immediacy.

Reward

This was the primary reason why the participants wanted to play *WoW*. Having reached the maximum level, Mark was motivated to play for better gears. The other three novice players had been playing games for many years. They had heard about *WoW* before and had had a high expectation of the game. Fei thought "the achievements and the challenges" (10/30/2009) were most interesting in *WoW*. Jim enjoyed leveling up in *WoW*, because "that's the whole play of the game" (12/30/2009). Kyle felt the purpose of playing *WoW* was to level up and for better armors and mentioned that he had "the impulse to do best" (08/26/2009). It turned out that they enjoyed leveling up and accumulating experience points through completing quests. The value of success the participants placed on game play revealed they expected their competence could be acknowledged in the virtual world. Furthermore, the heated competition in the game made them highly motivated and contributed to their sense of achievement.

Immersion

In the game process, the participants were caught up in the virtual world. First, in the stimulated recall, all of the participants narrated their avatars' activities in the virtual world by using "I" or "me" to indicate their own avatars. The game design in *WoW* made the player have a sense of attachment to the game process. For example, the quests have the player's name incorporated in the text, which makes the player feel that these

quests were specifically addressed to them. It made them feel accountable for what they did with their avatars in the game world. In the snapshot below, Fei's avatar, Blubolt (pseudonym) appeared in the quest.

Figure 5-31. Avatar's name in the quest.

Second, the complexity of the game interface in conjunction with the accessibility of the rich information that absorbed the participants in persistent exploring. The figure below as an example demonstrates some characteristics of the interface that attracted the attention of the participants.

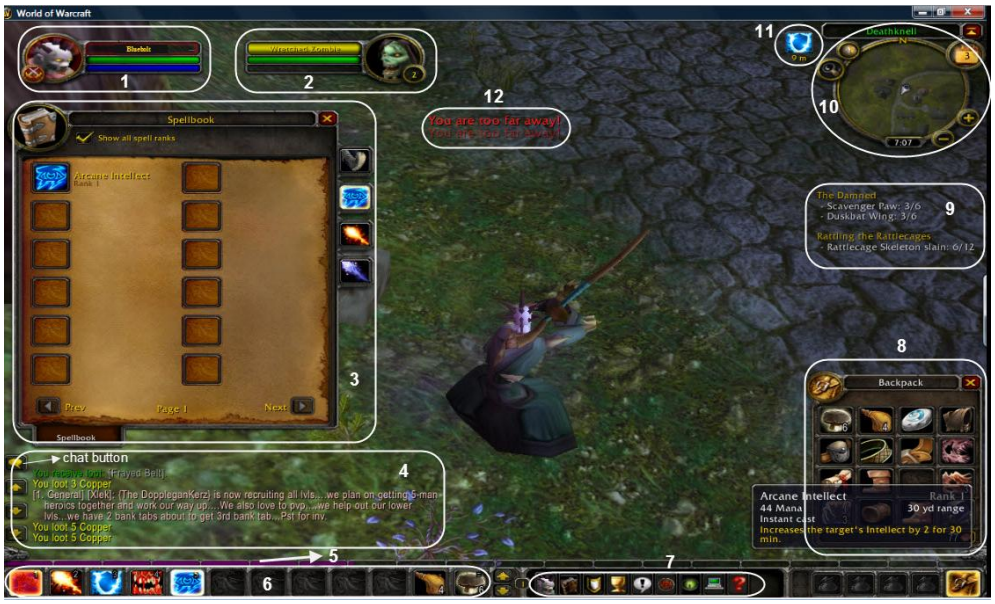


Figure 5-32. A typical interface in *WoW*.

Table 5-8. Description of interface blocks

No.	Interface block	Description
1	Character portrait	Avatar's name, health, mana, and current level
2	Target portrait	Target's name, health, mana, and current level (green=friendly, yellow= neutral/passive until you attack, red=enemy)
3	Spellbook window	All the spells and abilities the avatar has
4	Chat/Combat log	Chat messages, miscellaneous character messages, combat updates (The player can click the chat button to choose private messaging, emotes, and voiced speech by clicking chat menu.)
5	Experience bar	Avatar's experience point(i.e. one's gauge in between levels)
6	Action bar	Avatar's spells and abilities dragged from spellbook
7	Interface panel	Panel with access to character information, spellbook, character talents, quest log, world map, social options, main menu, and help menu
8	Backpack/Inventory	The place where all the loot goes
9	Quest status	A brief summary of the current quests
10	Mini map	The map showing the avatar's surroundings (time, zoom in/out)
11	Status icons	Buffs (positive conditions)that are active on the avatar
12	Alert message	Alert both in text and in audio

Figure 5-32 is a snapshot from Fei's game play. It is a typical interface in *WoW*. In this snapshot, there are several blocks, which are listed in Table 5-8. This snapshot can be viewed counterclockwise. On the top left, from the character portrait, Fei could see his avatar with level, health, and rage indicator. On the right of his portrait, it was the target's portrait and information. Under the avatar's information, it was the window for spellbook where Fei could check his spells. On the left corner, the updated game log informed Fei of his recent actions. Under the log, there were action bars with spells and abilities that Fei placed from his spellbook window. The interface panel in the middle of the margin on the bottom enabled Fei to access his avatar information, spellbook and abilities window. The square area on the right bottom is the backpack. This snapshot was made when Fei clicked on "Aracane Intellect," the details of which

were shown in the small box over the backpack. The text above the backpack was the quest log recording the status of each accepted quest. On the top right corner, the mini map indicates where Fei was. Fei's avatar, Blubolt was fighting with a Wretched Zombie. The words "You are too far away" in red reminded Fei about the danger he faced. Additionally, the later was also delivered in audio. As shown in the figure above, varied information is passed in multiple modes of text, image, and sound as well. Evidently, the screen of *WoW* is overwhelmingly dominated by images. Complexity of the graphic design and multiplicity of the information presented the participants with various cues for further exploration.

Immediacy: Time and Speed

Time and speed were two parallel issues when the participants narrated their game play. Time constraints and high speed in the game kept the attention of the participants and affected their literacy options. I use a conception of "immediacy" to indicate the condition of pressing time and high speed in *WoW.*

Generally, all of the participants were more inclined to read symbols and numerals than texts. As described previously, each quest contains the description, the objectives, and the rewards. Usually, the participants first noticed the rewards on the bottom, in which the symbols and the numerals were quickly understandable information of what and how much they could get upon finishing that quest. The section they would pay attention next was the objectives, which told them what they needed to do. Finally, they might browse the description very briefly. The direction of their reading was bottom up and from symbols and numerals to texts. The participants tended to read symbols as

opposed to dense words in their game process in order to perform under the constraints of time.

While describing the difficulties he had in figuring out how to expand his backpack, Kyle said he just ran everywhere. He thought of googling that but he did not to do so, because "there was no time" (11/01/2009). Fei said he would never make posts on the forum because it was too slow to him. He preferred exploring the game world by himself, because he could not wait for someone to answer his questions. Jim mentioned that some quests took much time to finish, because he needed to "go here and there to find the stuff" (12/30/2009). He hoped that he could finish the quests "as quick as possible" (12/30/2009), which could help him level up and he would feel better.

Time was more important to Mark, who was involved in PvP battling and raiding. He needed to check the start time of a PvP battle in which he may want to participate. He paid attention to the time left when he fought against the enemies in the battle. In discussing reading in the game, Mark mentioned he downloaded add-ons to help him finish quests. Those add-ons would tell him "where every quest was and [the target] showed on the map" (08/02/2009). Mark did not agree that this was to avoid reading. His intention of using add-ons was to "get faster." He explained that he could level up one of his characters, druid, from 70 to 80 in less than a week with the add-ons on his computer. Without add-ons, it would probably take him over a month, because reading the quests took "way more time" (08/02/2009):

> I can read it if I want to. If I know it, there's no meaning to read about it… I mean, a quest is just in that paragraph to tell you go where, kill what and return it back. So, basically, is there any need to read that if you really understand what you're doing? Your point to play the game is to get level 80.

Again, Mark emphasized that reading was for playing the game. In order to progress at a faster pace, he chose a way to get the core information in completing quests. In addition, Mark said that the time limit in PVP battles made him more excited about the competition.

To conclude, when totally immersed in the game world for achievements, the participants' sense of engagement was cultivated by the pressure of the game's high speed and time constraints.

Chapter Summary

In this chapter, I first presented what gaming activities were found in the participants' game play. Next, the focus shifted to the literacy activities that were identified on the basis of the gaming activities. Of the rich and varied literacy activities, reading was the main activity in the participants' game process. Then, four varied literacy practices including information seeking, strategizing, socializing, and problem solving were depicted. All the four literacy practices were found within *WoW*. However, only one literacy practice, information seeking, occurred around *WoW*. Also, information seeking was the core literacy practice, in which reading stood out as the major activity. The four literacy practices were situated in the scenarios selected from each participant's game play. Finally, I elaborated on the participants' sense of engagement in *WoW*. It was found that reward, immersion, and immediacy fed the participants' enjoyment and excitement, which drove them to participate in literacy practices in an interesting and fun way.

CHAPTER 6
DISCUSSION

Overview

The study explored adolescent ELLs' L2 literacy engagement in *WoW*. Insofar as the participants' literacy practices in *WoW* were depicted in Chapter 5, this chapter discusses the participants' L2 practices, their literacy engagement process in the game context, and the nature of L2 literacy engagement in the game. To begin with, the analysis focuses on the participants' L2 literacy experiences. Next, it is noted that the literacy engagement proposed by Guthrie and his colleagues refers to involvement in a conventional literacy context. It is different from the complex environment in which these the participants were immersed. Hence, I shift to the spotlight on the multimodal environment in *WoW*, which involved in scaffolded, interactive, and collaborative learning. I use the engagement model of reading development (Guthrie, 2001) as a framework to analyze the literacy practices in gaming and the multimodal learning environment. Lastly, drawing from the major findings in Chapter 5, I use a visual representation to demonstrate what L2 literacy engagement in *WoW* means.

L2 Practices in *WoW*

As indicated in Chapter 5, reading and writing were manifest in the participants' game process. Selecting a North American realm in game play, all the participants were immersed in a world where English was used as the only language. In terms of language practices, reading and writing are discussed in this section.

All the participants were English language learners. Mark, Fei, and Kyle exited ESL classes, but Jim never entered an ESL class. Of the four participants, Kyle was the newest immigrant and he had been in the U.S. for the shortest time. He was the

only one who could read and write in Chinese and also spent a lot of time with Chinese-speaking friends. Kyle felt comfortable speaking Chinese with me. Both Jim and Mark used Chinese and English interchangeably. Probably because Fei was required to speak English at home by his father, he did not speak Chinese with me except a few words. In observations, the language did not impede any of the participants' game play. Additionally, they had all the stimulations including symbols, numerals, sounds, which they could use in a multimodal environment. Therefore, it was hard to pinpoint and gauge their L2 acquisition. Despite the fact that their L2 acquisition is not very salient, the participants were indeed exposed to English as their second language and stayed on-task using English all the time. Reading and writing were their typical activities which involved, but were not limited to language use.

Reading: Language Practice Embedded in Game Process

As indicated in Chapter 5, reading was the most significant literacy activity in the participants' game experience. It was so essential to their game play that reading in order to play, not reading per se, brought them much enjoyment. When asked about their reading experience, all of the participants referred to reading text in terms of language use only. Indeed, reading text was only a part of their multimodal reading in gaming. In the section below, the participants' reading experience across modes is discussed.

Reading the word

Quests were where the participants could read a chunk of text in order to play the game. Doing quests invited the participants to be involved in using task-based language in a particular way. In analyzing the quests in *WoW,* Krzywinska (2008)

argues that the quests are in “mythic form through the rhetorical style” (p. 129), and *WoW* has rich text which is present “in the register of narrative” (p. 123). Based on the quests exemplified in Chapter 5, it is found that the quests in *WoW* always include a back story, characters, and settings, all of which are intertwined to inform players of plotted story events (Carr, 2006) that are related to game play. For instance, the description of the quest titled as “The Mindless Ones” (see Figure 6-1) told the participant a short story about who “the mindless ones” were, where they were, how they overran the northern part of the village, why and how they should be destroyed. Notwithstanding a mini story, the basic elements of a narrative including setting, character, plot, conflict, and resolution were vividly encapsulated in the description.

Figure 6-1. Accepting quest “The Mindless Ones” from an NPC.

In fact, the storytelling style as found in the *WoW* quests is not rare in video games. Research on game literacy state that rich narratives set in games should be taken as reading opportunities. For example, Alberti (2008) argues that video game players are “simultaneously readers and writers” (p. 258). Also, Moberly (2008) contends that computer games are produced through “a complex, often hidden process

of reading and writing" (p. 290). In exploring narrative in computer games, Journet (2007) argues that video games succeed in their embedded "situated meaning principles" (Gee, 2003). Journet (2007) points out how video games integrate narrative to engage players: "…games underscore the importance of situating knowledge and knowledge-making in narrative modes; of paying attention to contextual, storied character of learning; and of finding texts and tasks that evoke narrative desire in students" (p. 95).

In contrast, in this study, none of the participants showed interest in the background story of *WoW*. Narrative embedded in quests seemed not to contribute to engage the participants, especially when infrequent words made reading more demanding. For example, in "the Mindless Ones," some words like "forsaken," and "necromantically" appeared in the description. As Fei recalled, he skipped most of the description when he found some "hard words." He focused on the objective which told him what he should do directly, that is, to kill some zombies. To the player, rich narrative set in the quest description that provided back story might not be as informative as the succinct commands given in the quest objective. Likewise, the other two novice *WoW* players, Jim and Kyle, also mentioned that they only skimmed through most of the descriptions in doing quests and their attention was focused on the straightforward objectives which were most relevant to their game play. As Jim said, he did not care about the back story. Mark mentioned he was only concerned with what he should do in questing so that he downloaded the add-ons to give him the information directly. The participants' reading for information needed for game play well embodies

the finding in Leu et al's (2007) research on online reading that reading online involves comprehension of "informational text for learning and discovery" (p. 56).

Though the participants were unlikely to read the extended text and purposefully concentrated on the key information, they were unquestionably exposed to text and were involved in decoding text. In the game, reading was abbreviated, task-oriented, and situated in specific gaming context.

Reading the world on the screen

WoW provided a very real arena to use language and other semiotic systems for the participants to communicate and collaborate with others. In addition to reading the word, the participants also "read the world" (Freire & Macedo, 1987) in *WoW*. Furthermore, the world was a virtual one presented on the screen.

When the participants read the game world as shown on the screen, reading text-abbreviated specialized language was only a part of their reading experience in *WoW*. Most of the time, the participants read a hybrid of text, symbols, and numerals, though they tended not to take account of decoding symbols and numerals as part of their reading experience. Kress (2003) maintains the screen of the game is multimodal, replete with music, soundtrack, writing and "overwhelmingly dominated by the mode of image" (p. 160). Likewise, Burn (2006) contends that multimodal texts exist in games since they have "visual design, animation, music, speech, writing and so on" (p. 89).

Rich context clues in multimodal reading in *WoW* offered the degree of choice the participants required to invest productively. The participants as readers had more entries to the multimodal text, which also brought more freedom in designing how they could get access to the information wanted. For example, in his stimulated recall of

doing the quest “The Mindless Ones,” Fei could not name the zombies he was required to kill, but this did not hinder his game play at all. He said he only had a rough impression of the zombies and could pull out the information from the quest log whenever it was needed. Also, when Mindless Zombies and Wretched Zombies showed up, he would read the names of zombies in the target portrait and the color in red behind the zombies’ name informed him that he should kill them. In this case, Fei made choices about when to read and what to read, which gave him a sense of power. This also shows the gaming activities in *WoW* are context-embedded tasks, which fall into Quadrant I or Quadrant II of Cummin’s Four Quadrants (Cummins, 1981) as illustrated in Figure 6-2. The rich context that is full of multimodal text provides the player alternative access to comprehension.

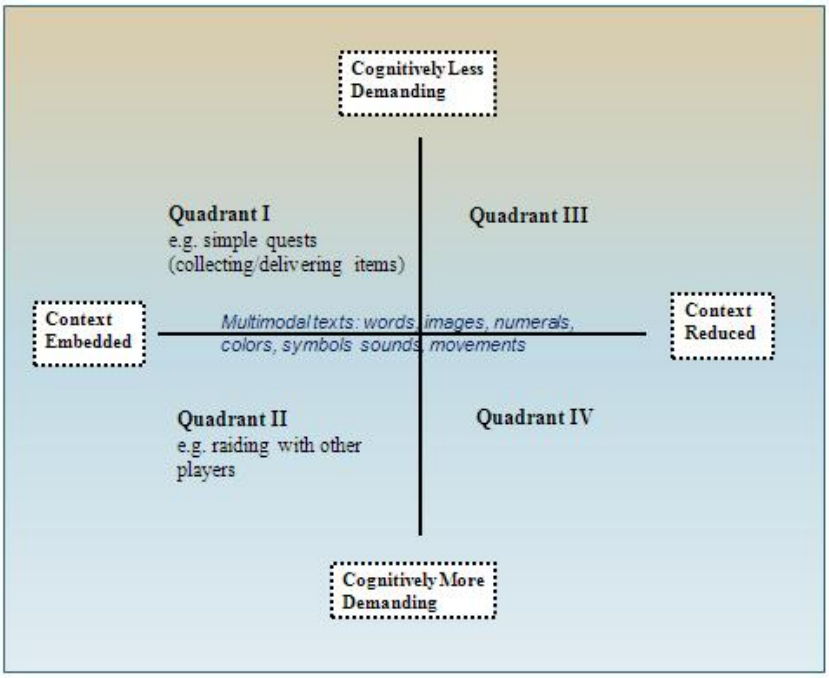


Figure 6-2. Gaming activities in Quadrants I and II (adapted from Cummins, 1981).

The concept of multimodal literacy (Kress, 2003) provides a new perspective on the issues concerning reading more than words in the game. When the participants

read the screen, the reading path (Kress, 2003) was no longer as traditional as the one of written texts. Obviously, the screen was ordered by the "logic of image" (Kress, 2003, p. 48), even though written texts occasionally appeared in the mode of writing and in the medium of screen. When texts were presented on the screen, they were subject to the logic of image (Kress, 2003). In *WoW,* quest reading can be taken as a prime example to show how the participants' reading path in the multimodal environment was affected by the image. As presented in Chapter 5, in reading quests, the participants chose to read the images of rewards first, the text of objectives second and descriptions last. At times, they even ignored the descriptions. This reading path was bottom-up and reading text was preceded by reading image.

As observed, the modes of text and image on the screen were not in an isolated perspective. Indeed, sometimes, the modes were mixed, in that they were governed by two logics: writing is in the logic of space and image is supplemented with text. Text in *WoW* is characterized by those spatial features such as blocks of writing and titles in the quests. The opposite is also true. Some images, for example, the rewards in the quests, have descriptions to clarify what they actually are. This observation resonates with Kress's (2003) explanation of mixed logics, which are "a feature of multimodal texts, that is, texts made up of elements of modes which are based on different logics" (p. 46). In a quest, narrative in writing is mixed with display in visual modes. In *WoW*, illustrated pictures are not simply an add-on of the text or vice versa. Text and image play their own roles in "functional specialization" (Kress, 2003, p. 46). The texts tell "how the game works" and "what it does" (Kress, 2003, p. 160). The symbols show

"what it is" (Kress, 2003, p. 160). The participants' reading path in reading the quests shows that texts were subordinated to the spatial logic of the image.

When the participants read the screen in playing the game, images were no longer supplementary to texts. Instead, images were overriding while texts were complementary to inform players with explicit instructions. Kress (2003) claims that mode and choice of mode is a significant issue in the era of the new technologies of information and communication. In *WoW*, it is very telling that texts exist but they are never the main focus of the screen.

Literacy ownership: Reading or not?

Previous studies (Sarsar, 2008; Wilhelm & Smith, 2001) have found that students who play video games tend not to think they are involved in reading or writing because they may fail to recognize their "unofficial" reading and writing activities while playing as opposed to "official" school learning (Dyson, 2005). Au (1997) uses "ownership" to refer to "students' valuing of literacy" (p. 174). Whether the participants thought they were involved in reading depends on what literacy meant to them.

In response to my interview questions about reading, none of the participants thought reading numerals and symbols was part of the activity. Mark and Kyle identified some reading activities in the game, all of which were related to text. To Jim and Fei, their "ownership" of "unofficial literacy" in gaming through literacy practices was not claimed at all, even though reading as a core literacy activity that actually occurred in their game play. They had a relatively traditional idea of "reading." Their notion of reading was confined within "official" literacy (Dayson, 2005), in which reading in print was stressed. They did read in playing games, though it was different from the

traditional print reading. Also, both of them associated the conception of "reading" with the quantity of reading. In Fei's words, he expected "a lot of words" in reading. By the same token, Jim doubted "the small text" he encountered in the game would be counted as a part of what he "read."

Unclaimed "literacy ownership" found in Jim and Fei's *WoW* experience is consistent with findings in a study of secondary school boys' literate lives in and out of school (Wilhelm & Smith, 2001). A major finding in that study is that a complete disconnection existed between the boy's home literacies and school literacies. The authors attribute the reason to the fact that school-based reading lacks the qualities of "the activities (both literate and not) that the boys pursued out of school" (Wilhelm & Smith, 2001, P. 17). According to Wilhelm and Smith (2001), the boys, even those who were successful students, tended to reject school literacy tasks, while they were passionately reading magazines and manuals, chatting online, writing emails, designing Websites, and playing role playing games. Another interesting finding in Wilhelm and Smith's study is that the boys actually valued school-based reading in theory but often rejected in practice. Fei and Jim might not have necessarily rejected their school reading in practice, but their notion of reading was shaped on the basis of school reading. Though video games involved them to read occasionally in a multimodal environment, they were not likely to claim the "ownership" of these unofficial literacy activities. Instead, they equated reading activities with merely reading print materials mostly for academic purpose.

Informal Writing

According to Gee (2007a), video gaming is a new "literacy" because people decode meanings and produce meanings by using symbols. When the participants read the screen, they decoded meanings of a amalgam of texts, numerals, symbols. Encoding meanings in the participant's gaming process was demonstrated in how they controlled their avatar's motion in the virtual world. In addition, they produced meanings when they participated in writing in the game. The writing was embedded in text chat. As opposed to reading, writing is the secondary language practice that was observed in this study. Of all the participants, Mark was most active in chatting. Hence, some features of his text chat are discussed.

Socio-emotional communicative functioning

As depicted in Chapter 5, Mark's text chat consisted of four categories: socio-emotional functioning, raiding involvement, collaborating, and talking about fighting. Though the category of socio-emotional functioning is not directly associated with Mark's game play per se, it is salient among other task-concerned communication. The socio-emotional chat played a central role in establishing positive interpersonal relationships. The subcategories of socio-emotional functioning included greetings, bidding farewell, expressing feelings, apologizing, and joking. The discussion below focuses on the use of swear words in Mark's joking with his friends in the game world.

Mark and his friends used swear words occasionally such as *fucking, shit, damn* and *ass* in text chat. Indeed, some previous studies have found that a wide variety of swear words are used in young people's computer-mediated communication (CMC). For instance, in investigating two adolescent girls 'identity issues on cybersites, Guzzetti

(2006) found one girl used swear words in online writing as many other young people did. By examining new literacy practices involved in two adolescent girls' online journaling, Stenström, Andersen, and Hasund (2002) referred to Ljung's work (1986), differentiating "aggressive swearing" from "social swearing" in discussing swearing in teenage talk. The former usually reflects the speaker's emotions, whereas the latter usually is used to "strengthen group affinity" (Stenström, Andersen, & Hasund, 2002, p.77). Also, "the stronger the group affinity the more swearing" is found (Stenström, Andersen, & Hasund, 2002, p. 77).

To Mark, swearing in joking also bore social meanings and was an integral part of his gaming communication as he sought to cultivate and sustain social relationships with other players. Mark admitted that using those "bad words" in *WoW* was just like how he joked around with friends in real life. Actually, Mark was aware of using swear words in a "communicative register" for text chat in the game (Greenfield & Subrahmanyam, 2003). In other words, in the social setting of the game, Mark knew it was acceptable that he used swear words for a particular purpose of joking while chatting with his friends. Indeed, Mark realized that the language use was not appropriate for children, saying "there's something kids don't wanna know" and "the stuff is pretty bad" (08/02/2009). It is obvious that Mark knew when and in what conditions this behavior was tolerated.

Along with the findings about online video game communications by Peña & Hancock's (2006), the other three novice players did not use any swear words in their limited communication with others in *WoW*. According to Peña & Hancock's (2006), more experienced participants are more skilled at involving socio-emotional

communication in a recreational way. Though Kyle did not use swearing in *WoW*, I found that he used the equivalent swearing words in Chinese while playing *AION* with his Chinese speaking friends using voice chat. He explained it was natural to use those words with those he was quite familiar with but he would not do so in *WoW* with strangers. It is fairly certain that using swearwords in the game partially reflected the close relationship with other players.

Nonlinear conversation order

In analyzing online discourse in a teen chatroom, Greenfield and Subrahmanyam (2003) found that conversational coherence in face-to-face settings cannot be maintained in the online chat environment. Correspondingly, all the conversations in game play were nonlinear. Basically, two factors make the conversations nonlinear. First, the chat log is interlaced with combat log. In addition to chat, the participants could also read non-chat messages concerning the player's character development, such as notices of completing quests, receiving loot, or leveling up. Second, it is possible that the player converses with multiple players in a synchronous manner.

The snapshot below from Mark's chat log exemplifies the conversation structure in the game chat. Different colors distinguished Mark's chat with Lominia and the conversations within the raid where Mark stayed. In this short excerpt, "multiple conversational threads" (Greenfield & Subrahmanyam, 2003, p. 717) are found. Mark and Lominia's conversation were intertwined with Mark's conversation with another raid member, Popps. Mark's response to Popps did not immediately follow Popps' text since the messages by Megagim and Lominia were inserted there. In Greenfield and

Subrahmanyam's (2003) words, this snapshot shows "conversationally sequential or relevant utterances" (p. 718) are separated in space and time.

Figure 6-3. Nonlinear conversations in text chat.
Note: The names on the black bars are pseudonyms. The white arrows are added to demonstrate the nonlinear style in game chat.

Consistent with Greenfield and Subrahmanyam's (2003) finding, the conversation in the game may be not one-to-one based. The chat is nonlinear, so the player has to pay attention to the updates of the chat log or identify "relevant utterances" (Greenfield & Subrahmanyam, 2003, p. 718) to be in the loop of a conversation.

Informal language use

Jim noticed informal language was used in *WoW.* In his words, "slang English" like "what's up" and "dat" was often used in games. So, he did not think *WoW* could be used in the English classroom, because "English teachers don't like that [informal language]" (12/30/2009). He emphasized the language use had to be improved if the game was used in the classroom.

The informality denotes several aspects. First, a large volume of acronyms and abbreviations were used. This was a common phenomenon in online chatting. Some examples include:

K- OK
PPL: people
LOL: laugh out loud
np-no problem

lol -laugh out loud
grants-congrats/congratulation

Second, gaming lingo as one specialized language was used among the insiders of the game. Some examples are as follows:

LvL- level
Mob-mobile (indicating one kind of NPC whose purpose is to be killed)
Aggro-aggravation/aggression (indicating aggressive interest of an NPC)

Also, some words may have special meaning which is different from what it means in our daily use. Mark explained how "tank" used in *WoW* meant something else. Before playing *WoW*, he only knew "tank" referred to a military vehicle. However, in the game, a tank is a warrior who has "protecting gear" (07/24/2009). He made the further point that people out of the game would just think "tank in the army." Only those who played the game knew "tank" referred to a character that protects other players by taking damages from enemies. Another word he mentioned was "boss." Different from our everyday use of the word "boss," Mark explained "boss" meant "a strong enemy" with whom he had to fight. The use of the lingo shows that the language use in the game world is primarily context-embedded. The game-specific terms imply that vocabulary development based on "situated understanding" (Gee, 2007) is essential for the player to progress in gaming.

Third, typos and spelling errors appeared but were generally accepted. In Jim's scenario, his helper, Sileo typed "you" as "oyu" and then corrected it. Jim did not say anything about the minor error. Later, Sileo asked Jim to punch "x" key to get down the water when they crossed a river. However, Sileo typed "puch" instead of "punch." Jim thought it was a spelling error and believed Sileo was only seven as he told Jim. In

spite of typos or spell errors, Jim did not think they affected his communication with Sileo.

The language use in text chat has features of conversational language in the real world and contains language that is specialized in the game world. As discussed in Chapter 2, Cummins (1981) makes the distinction between two kinds of second language proficiency: basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP). The former indicates conversational language use, whereas the latter refers to academic language learning in content areas. In *WoW* play, the participants used both conversational language and game-specific language for interpersonal communication in the virtual world.

Given that BICS has social dimensions and CALP is always specialized in certain subject matter areas, the language use in text chat overlaps with BICS and CALP to some extent. It differs from BICS and CALP because the communication in the game world is very succinct and also highly context-dependent. To more precisely depict the language use in text chat, I expand Cummins' BICS/CALP distinction to propose a third type of language use, that is, abbreviated specialized virtual communication (ASVC). The relationship among BICS, CALP, and ASVC is shown in the figure below. It is noted that ASVC shares more in common with BICS than with CALP. Although in a virtual world, ASVC is still one type of communication among players. ASVC overlaps with CALP only when game-specific language is viewed as a specialized language in the "subject" of gaming. In order to show succinctness and specialization embodied in text chat in *WoW* is greatly situated in the game context, I have the features of being "abbreviated" and "specialized" only partially fit into BICS and CALP respectively.

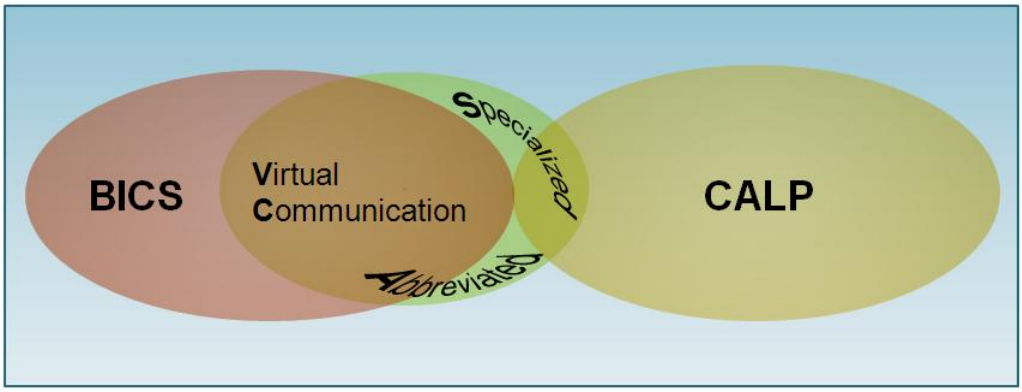


Figure 6-4. BICS, CALP, and ASVC.

Thoughts Pertaining to L2 Acquisition

Though the purpose of the study was not to investigate the participants' L2 acquisition in the game process, they were undoubtedly immersed in a L2 environment. Because the participants were at a high proficiency level, it was difficult to see second language acquisition happen. Notwithstanding not much observable L2 acquisition, two gaming issues related to language acquisition are worthy of discussion.

Learning by doing: Total physical response (TPR) in gaming

In the study, all the participants including the three novice players and the experienced one started their *WoW* adventure with playing in the virtual world rather than reading the manual. The nature of learning by doing or "performance before competence" (Braun, 2007) in the game is consistent with total physical response (TPR), an effective teaching method to facilitate L2 acquisition.

TPR as comprehensible input (Krashen, 1998) is widely applied in second language learning. In the game, comprehensible input in a game is delivered in the form of words, numerals, symbols, sounds, all of which establish a multimodal and multi-sensory environment. The participants reflected on their perception of how the game proceeded through manipulating their avatars to act in the virtual world. In other

words, the physical response of the avatars revealed the participants' understanding of the game by virtue of decoding the texts, numerals, and symbols. The players' reactions to the commands in the quests were demonstrated in how their avatars acted in the game.

In a real L2 learning classroom, it is the instructor who models commands for students. In the virtual world, there are two situations in terms of instructing. First, as a replacement of an instructor showing physical responses, the game itself provides tutorials that the players can draw upon for consistent learning. In the previous example of how Kyle googled information for a quest, Kyle's avatar, Unokool, could not get through a portal. Then, a message saying, "You must reach level 58 to use this portal," indicated that Unokool's attempting to go through the portal was invalid. The text functioned as instructions to suggest another attempt after the player would achieve a higher level. Second, one player may model some movements for another player. In Jim's scenario, he was told by his helper, Sileo, that his avatar could swim if he punched the "X" key. The modeling in this situation was delivered in simple texts. In both situations, the players demonstrated their understanding of a command through their avatar's physical response in the game world.

Time

It is interesting to notice that the conception of time have different denotations in one's game play process versus one's L2 learning process. In L2 acquisition, it is emphasized that ample time is needed for language learners to understand the context. However, in the gaming context, the fast pace requires speed and urgency. The high speed at which the game progressed made the game competitive and required the

participants rapidly decode the highly visual texts and encode meanings by demonstrating their understanding. In discussing digital game-based learning, Prensky (2003) mentions that players take in information and make decisions at "twitch-speed" (p. 2).

Though it was not obvious that the participants might be affected by the language problems when they needed to quickly react in the game world, the issue of time had a pronounced effect on the participants' literacy choice. In Chapter 5, it is described how the participants were inclined to read symbols and numerals rather than texts only when they read the quests. Mark chose voice chat rather than text chat when he was involved in difficult raids, because speaking was faster than typing. When time was a concern, the participants were more likely to choose the faster and more efficient way to achieve their goals. Time was definitely a factor of the participants' decision making when they faced multiple modes of information. However, immediacy in the game context is not in accord with L2 learning environment, where ample time is expected.

Literacy Engagement in *WoW*

As presented in Chapter 2, Guthrie (2001) proposes an engagement model of reading development to depict instructional contexts that foster literacy engagement processes. As the foundation in literacy engagement research, this model is taken as a framework for conceptualizing the participants' literacy engagement in *WoW*. Given two essential dimensions of this model, which are the engagement process and the instructional context, the discussion below is first centered on the four literacy practices found in the participants' game process and then shifts to the multimodal learning environment that is embedded in *WoW*. To differentiate the literacy engagement with

an emphasis on reading in the classroom setting from the literacy engagement in gaming, hereafter, I use the terms reading literacy engagement (RLE) and gaming literacy engagement (GLE).

Literacy Engagement Process

According to Guthrie (2001), engagement is a dynamic system with the joint functioning of motivation, conceptual knowledge, strategies, and social interactions. Chapter 5 addressed that socializing, information seeking, strategizing, and problem solving were the four literacy practices that occurred in the participants' game play. GLE is similar to the RLE in that both are involved in social and strategic endeavors. Though motivation and conceptual knowledge do not emerge as literacy practices in GLE, they do exist in the participant's gaming process. Another two gaming literacy practices, information seeking and problem solving are also related to some aspects of reading engagement.

Motivation

As discussed in Chapter 2, if motivation is taken as "whys" of behavior, engagement is about "hows" of behavior (Weigield, 1997). Guthrie and Anderson (1999) point out that involvement, curiosity, being social, challenge, importance, and efficacy are six intrinsic motivations for reading. The extrinsic motivations for reading consist of recognition, competition, grades, and work-avoidance (Guthrie & Anderson, 1999). However, work-avoidance is a negative motivation that reduces one's reading efforts and amount.

In this study, motivation was the primary reason why the participants wanted to play *WoW*. There existed both extrinsic and intrinsic motivations in their game play.

Different from some previous research (e.g. Sherry, Lucas, Greenberg, & Lachlan, 2006) which showed social interaction was a primary motivation for adolescents' game play, the participants in this study stressed individual success as their fundamental motivation. This is reminiscent of Sarsar's (2008) study, which found ESL students felt their capability to solve problems in *WoW* gave them a sense of achievement and thus raised their self-esteem. In analyzing the participants' sense of engagement in Chapter 5, it was found that the rewards as extrinsic motivation appealed to them. The three novice players' expectation to level up and Mark's expectation to win better gears reflected their desire to be a competent player in the competitive virtual world. So, recognition and competition (Guthrie & Anderson, 1999) were two extrinsic motivations for their *WoW* play. Mark, as the veteran *WoW* player, mentioned he would sell his account with high- level avatars. Though the rewards existed in the virtual world, Mark did realize the in-game virtual property would bring him real economic benefits. The other three participants did not show their intention of playing for real money, which might be due to their low levels.

Moreover, the participants' motivation was intertwined with their identity development in game play. This is more related to the participants' intrinsic motivation, since it reveals their involvement in a social setting of the virtual world. In the previous chapter, it was mentioned that all the participants used the "I" or "me" to narrate their game play from the first-person point of view. In discussing communicating with other players in *WoW*, I found Kyle took being a competent player in the virtual world as an important part of his identity in the real world. He recalled there was only once that another player asked him to help buff, an activity to increase the avatar's power. They

had a very simple conversation. Kyle mentioned he did not like to talk to others when his level was too low. He felt "shamed" and believed he would "speak louder" when his level was "higher." He thought what other players could see was a part of who he was and how he looked like in the game world. Even though others would not be able to "see" him as a lower-leveled player, Kyle did not feel comfortable. He stressed that people would look at him as his level suggested. Though they could not see him or hear him, Kyle believed people would feel that.

Gee's account of identity principle in video games illuminates Kyle's identity investment in game play. Gee (2003) defines three identities at play in a video game: first, a "virtual identity" refers to one's identity as avatar in the virtual world; second, a "real-world identity" is the player's identity as a nonvirtual person; third, a "projective identity" consists of dual identities when the real game player projects his/her "values and desires onto the virtual character" (p. 55). To put it simply, a projective identity is expressed in the avatar which the player selects and is realized through the avatar's actions which are controlled by the player. In playing computer games, on the one hand, the player's values and goals in real life tend to be reflected on the actions of his/her avatar; on the other hand, the projective identity makes the player in the real world aware of the trajectory of his/her own acts in a virtual world and shapes the avatar according to his/her own mental picture. There is no doubt that Kyle had his avatar represent him in the virtual world. How others looked at his avatar would affect how he as a real person was seen by others. When Kyle was immersed in *WoW*, his acute self-consciousness was integrated with his projective identity in the game.

Conceptual transfer

As described in Chapter 4, though three of the participants were new to *WoW*, all of them were experienced game players. Given the significant role of one's prior knowledge and learning experience, understanding the participants' knowledge transfer is essential before discussing how the participants' learning happened in the scaffolded, interactive, and collaborative learning environment of *WoW*. In this study, the participants had their "conceptual knowledge" (Guthrie, 2004) of game play, which had originated from their previous gaming experience. This kind of transferring was most obvious in the three novice *WoW* players' game play.

Though Kyle's avatar was still at a low level, he expected he would be involved in raiding if his level were higher. As a mage in the Alliance, he could raid against the Hord. Another example of how his previous knowledge of gaming helped him is about trading armors with the merchants. He did not run randomly here and there to locate where he could sell his stuff. Instead, he knew where he should go, because he said it was almost the same in most games. He saw the signs like "general goods" and some "options" and found the merchants. In discussing *WoW* with me, he often referred to his experience of playing *AION*, a Korean MMORPG he was playing then. Other than English, he thought previous MMORPG experience was quite necessary to play *WoW*, because the general rules were alike. For example, Kyle said he expected important information delivered through flashing exclamation marks and he knew he should find merchants if he wanted to buy armors. Also, he did not have vocabulary difficulties in playing *WoW*. He exemplified some common game-specific words like "raid," "boss," "guild" and also some acronyms like "WTB" (want to buy), "WTS" (want to sell), AFK

(away from keyboard), and “BRB” (be right back). He believed that was because he had been playing a few MMORPGs in English like *Cabal, RF, AION* and *Linage II,* and the language use was almost identical.

According to Jim, the basic structure of *WoW* was the same as other MMORPGs and he just knew the rules because he had played a lot of games. For example, when Jim logged on *WoW* for the first time, he clicked on one flashing exclamation mark at the bottom. One pop-up appeared, telling him he could how he could recognize quest givers and how he could get quests from them. When asked why he clicked on the exclamation mark, Jim said he knew there would be something important as it was like the other games he had played before.

Fei expected he would communicate more with others at a higher level, because he believed there would be more difficult quests and he had to collaborate with others. He explained this thought because he had played a lot of other games. Fei added that basic logic and deductive reasoning was quite necessary to play the game. For instance, if a quest mentioned a place, then the place must exist. That is also why he kept trying even though his avatar died for six times.

Another common phenomenon in all participants’ game play was that they kept checking from time to time. As illustrated in Fei’s persistent playing in Chapter 5, checking was the activity that took place most often during the six times his avatar died. Fei used checking nine times including checking his backpack, map, spellbook, achievement points, quest log, and his equipment. He just clicked on the buttons to take a look and did nothing. Kyle said this helped him to know his avatar’s status. Of all the participants’ *WoW* play, checking seemed to be a habitual action.

There is no doubt that the participants transferred their prior knowledge of game they had played to *WoW* naturally. All the conceptual transfer (Guthrie et al., 1996) of the basic understanding of previous games' background, structure, rules, and vocabulary across languages and games helped prepare them to play this new game. Multiple sources could be attained in and outside of *WoW*. None of the participants were seen to use the in-game help menu. The participants tended to search the information online or ask others directly.

Strategy Use

Guthrie and Anderson (1999) define a strategy as "a plan of action" (p. 31). In contrast, skills are "automatic sequences of complex actions" (p. 31). Strategies are more goal-oriented to solve problems. Searching for information, comprehending, and learning and automating basic processes are three strategies in engaged reading (Guthrie and Anderson, 1999). Learning and automating basic processes refer to a process that a beginning reader who learns strategies to make sense of text at the word and sentence levels becomes a strategic reader who is more automatic in strategy use (Guthrie & Anderson, 1999).

The strategies in the participants' gaming process are different from those in the reading engagement. As one gaming literacy practice depicted in Chapter 5, strategizing involves four strategies: exploring, using the Internet, reading with a purpose, and collaborative play. Compared with the strategies in RLE, the strategies found in the participants' *WoW* experience are more contextualized strategy use for gaming.

Two gaming literacy practices, information seeking and problem solving, entail searching for information and comprehending, which overlap with two strategies in RLE. Readers search information from multiple sources, including libraries, multiple media, and informational books (Guthrie & Anderson, 1999). Similarly, information seeking in gaming involves various types of information, including in-game attributes such as quest logs, peers in chatting, and around-game sources like YouTube videos, and multimodal information, including text, numerals, symbols, sounds, and videos. When it comes to comprehending, it is equally important both in RLE and GLE. Comprehension is critical to successful reading. In gaming, problem solving is a process of acting upon comprehension. As Guthrie and Anderson (1999) claim, in reading, the strategies are a means to the end, which is content understanding. However, in gaming, beyond understanding, the player needs to demonstrate their understanding by manipulating their avatars to decide what their "virtual selves" should do in the virtual world.

Social Interactions

Apart from strategy use, socializing is another evident commonality between RLE and GLE. According to Guthrie and Anderson (1999), engaged reading is social. Not only does social interaction contribute to motivation, it influences reading strategies and conceptual learning as well.

Ang et al. (2005) argue that computer games, most notably MMOGs, provide ample social interaction opportunities. As a MMORPG, *WoW* provides a social context where players communicated through text or voice chat. As delineated in Chapter 5, there was no exception as each participant expressed their views on the significance of social interactions in the game process. They interacted with those in the same affinity

group (Gee, 2003a) in the game. The influence that the affinity group exerted on the participants' game play was also found, nevertheless, at varied degrees.

In *WoW*, the extent of the player's socializing was affected by his/her avatar's level. The three players who were new to the game had very limited interactions with others. Correspondingly, Ducheneaut, Yee, Nickell, and Moore (2006) find that "joint activities" (p. 415) do not prevail in the early stages of *WoW*. Instead, the three novice players were mostly "alone together" (Ducheneaut et al., 2006, p. 415). Kyle clearly remembered there was only once he had interactions with another player when they buffed each other. Fei joined a group and left that group quickly. Jim joined a group and received help from another player to finish two quests, which demonstrated the "teamlike camaraderie" (Raney, Smith, & Baker, 2006) engendered in *WoW*.

In addressing the issue of online communities in *WoW* from a perspective of tribalism, Brignall and Valey (2007) state the formation of "tribes" results from the desire of those who share similar interests and assist each other in game play. This "tribalism" is well demonstrated in Mark's game play. Unlike the three players who were at low levels and mainly dealt with quests, Mark spent most of the time chatting with others, mostly through text chat. Indeed, Mark's *WoW* play involved more social interactions because he joined guilds and raids. The two grouping patterns are actually essential social factors in *WoW* (Ducheneaut et al., 2006) so that Mark had far more opportunities to socialize with others.

Multimodal Learning Environment in *WoW*

In addition to the engagement process, Guthrie's (2001) engagement model of reading development also informs us of the instructional contexts that foster reading

engagement. The context consists of ten instructional priorities, including learning and knowledge goals, real-world interaction, autonomy support, interesting texts for instruction, strategy instruction, collaboration support, praise and rewards, evaluation, teacher involvement, and coherence of instructional processes. Given that learning occurred in the participants' gaming experience, it is crucial to examine the learning environment embedded in the game world. Though not all of the ten instructional components in RLE model are found in the virtual world of *WoW*, most of them are pertinent to the learning environment in *WoW*.

Multimodal environment

RLE mainly address reading print in a classroom setting, whereas GLE occurs in a multimodal environment. Moreno and Mayer (2007) define multimodal learning environments as learning environments that use both verbal and non-verbal modes to embody the content knowledge. Given that texts, symbols, and numerals pervade in *WoW,* the player is immersed in a multimodal environment. Gee (2003) contends that multimodality is an important feature of the semiotic in video games. He argues that online gaming environments generate a semiotic domain in multimodal literacies. All the images, gestures, symbols, movements, and the voice communications are represented in semiotic domains. Situated meanings and leaning are very important in Gee's (2003) arguments for the virtues of video games. This section discusses how the meanings of text and image are situated in the multimodal environment.

Beavis (2002) describes some central elements entailed in reading and playing games, including "segmented screens, talk, color, dimensionality and sound" (p. 6). All these elements were also embedded in the participants' gaming experience. All the

participants needed to “look both at and through the screen” (Beavis, 2002, p. 6) in game play. First, the animated action of the game occupied the central section of the screen. Second, there was a lot of supplementary information that was supplied in icons in different sections. The players moved between these different layers of frames to find the information needed in the whole game process. They opened the spellbooks to check spells. The game log updated the players on what was happening in the game world. They could also read the public messages of those who were in the same surroundings. Third, color plays an important role to deliver information to gamers. According to Beavis (2002), “color works more specifically to specify options and possibilities” (p. 6). For example, the players could easily identify the notification of receiving loot in green and the loot in yellow. Fourth, dimensionality indicates the layout of the game. In *WoW*, the players used the map on the top right corner in the game to switch the location. Also, they could anticipate danger based on the opponents’ positions on the map. Finally, the main use of sound in this game was to create realism and intensify “the immersive feeling of the game” (Beavis, 2002, p. 7). Though audio communication with other players only occurred in Mark’s game play, the simulation of the fighting sounds made the participants have a sense of “presence,” that is, “the feeling of being there” (McMahan, 2003, p.68). Also, some critical information in game play is presented in more than one mode. For instance, when the avatar was too far away from their target, the information about the distance was delivered both in text and in audio. The words “You are too far away” in red also indicated the degree of emergency.

WoW presents a world of both visual and audio effects. As discussed above, the information in *WoW* is mainly conveyed through visual means both in texts and in images. The multimodal environment across text and image put the participants into a game context, in which their multisensory experienced was incorporated. One constituent of the instructional context for reading engagement is interesting texts (Guthrie, 2001). By "interesting texts," Guthrie (2001) means an abundance of texts that center around the learning and knowledge goals. In *WoW*, text is only one of the modes the player is exposed to. The player deals with a multimodal composition of text, symbols, numerals, and sounds. Consequently, multimodal information in *WoW* replaces the supply of interesting texts in the instructional context for reading engagement.

Scaffolded learning environment

A scaffolded learning environment is twofold. First, the player actually needs scaffolding. Second, the player has access to scaffolding. In other words, the game must be challenging enough to keep the player engaged in playing, but not so demanding that the player feels unable to succeed. In the instructional context for reading engagement, Guthrie (2001) points out that "learning and knowledge goals" are codeveloped by the teacher and the students along with school requirements. Though no teachers and external requirements are involved in *WoW*, learning-goal oriented play exists in the game design and in the player's expectation as well.

WoW presents a challenging world to players. As Mark reflected, "[i]f it's too easy, it's no fun" (7/24/2009). Fei's avatar died six times, but he did not quit. He insisted on trying, because he knew he could make it eventually. His sense of efficacy was derived

from his previous gaming experience and his conceptual knowledge about games. Though it was not easy, it was still possible to finish. Fei had the opportunity to try, learn, fail, and retry till he succeeded. Jim's experience demonstrated that players can seek help from peers. The Internet is another convenient source that the players used. For example, Kyle turned to the Internet for more information when he had difficulties locating the NPC.

Other than the learning culture constituted by players through chat conversation (Nardi, Ly, & Harris, 2007), the *WoW* setting itself is a scaffoled learning environment. The participants had several accesses to the in-game tutorials. First, some new tutorials were set in the exclamation marks. The three novice *WoW* players' first encounter with an exclamation mark in the game process brought them a pop-up, informing them that quest givers could be identified by the exclamation marks over their heads and he could talk to quest givers by right clicking on them. Second, some information was integrated in the chat log. Whenever the player logged in, a piece of information about updated patches, add-on issues and forums on the Website appeared. Given the availability of multiple sources, the participants could visit the Website for new information if not enough was found inside the game. Third, each quest in *WoW* is set in a narrative format. Some quests function as tutorials to provide a learning process. For example, the two quests in Kyle's game play were selected to show how the quests per se would be a tutorial. The two quests were the same type, which directed Kyle to explore a place and report back to an NPC. Also, the second one was built on the first one, since the second quest confirmed what was requested in

the first one, that is, the Fargodeep Mine was infested with kobolds. The descriptions of the two quests told Kyle the location of the mines.

Figure 6-5. In-game tutorials embedded in quests.

Note: The direction information is highlighted in the snapshopts.

These two quests were meant to have Kyle practice locating a certain place with detailed directions. Before acquiring the two quests, Kyle had gained experience in reporting to or speaking to some certain NPCs.

All the in-game tutorials designed in this game allowed the novice players to learn by doing rather than by reading a manual. The three types scaffolding provided explicit instruction to the players. Guthrie (2001) asserts that strategy instruction is fundamental in instructional context for reading engagement; the explicit instructions embedded in the game scaffolding establish a context of inquiry for the player's consistent learning while playing.

WoW presents a learner-centered learning environment. The objectives can be reloaded by retrieving quest logs and the failures can be redeemed by resurrecting the dead avatars (Durkin, 2006). In Fei's case study, he kept trying after the avatar's 6th

death. He admitted that the opportunities for him to strive for a higher level made him feel less frustrated. As Gee (2007) argues games are "pleasantly frustrating" (p. 155), he knew the task was challenging but still doable.

Moreover, the participants were given sufficient autonomy in playing *WoW*, because they faced an array of "selectivity" (Raney, Smith, & Baker, 2006). From the very beginning, they had all kinds of options. They could select their factions, races, and classes. Then, they could select which realm, PvP, role playing, or PvE as the place where their avatars were going to explore the game world. Jim expected more "control" in this game reflects that he wanted more power to be an independent player to manipulate his own play.

In depicting the instructional context, Guthrie (2001) maintains that autonomy support given by choices is critical to trigger students' intrinsic motivation and develop self-directed learning. Likewise, considerable individual autonomy given to the players in *WoW* allowed them a vast array of opportunities to make their own decisions. *WoW* allowed the participants a vast array of opportunism to make their own decisions. For example, Kyle could accept all the quests that he encountered, whereas Fei did not accept all. After Kyle accepting the quests, he could choose or not choose to do each of them. Kyle and Fei could decide to play alone for most of the time rather than interacting with others as Jim did. Fei was able to leave the group after he joined one and found nothing was achieved with the group members. Jim could manage to find the places where he was assigned to finish the quests or could play more efficiently by collaborating with someone who was more experienced. All the options gave the participants a sense of agency and control (Gee, 2007) in the gaming process.

Interactive learning environment

WoW offered a high degree of interactivity to the participants. Different from previous studies on adolescents' video gaming experience that found social interactions also existed out of games (Raney, Smith, & Baker, 2006), no participants mentioned they discussed *WoW* with other friends. In the game, their learning was demonstrated through interactions with the game and with other players as well. None of the three novice *WoW* players read the manuals, which did not prevent them from playing *WoW*.

Playing was the best way to demonstrate their understanding of the game. The social interactions in their pursuit of problem solving enhanced their motivation. This type of interaction occurred among players such as Jim's friendly encounter with another player. It also happened between the player and the game. Interactions took place both in the participants' play with others and their independent play. Interactions between players provided rich learning opportunities. In Jim's case, he saved much time "randomly" looking for the places he was supposed to go with the help of Sileo. Mark got information from his friends. However, it was also possible for the participants' initiation of communication to not be responded to. Both Kyle and Fei found their questions were not answered.

Unlike the interaction among players, an instant interaction always existed between the participants and the game. The participants received feedback in their game process. If they were too far from the target, they could read the red alert or hear the warning if they kept the volume on. The chat log functioned as an entity that presented constant feedback. On the one hand, they gained rewarding confirmations if they successfully accepted and completed quests. On the other hand, they also

learned from their mistakes. In Fei's persistent playing, his avatar was easily killed again and again. He later found that the avatar had to turn to face the opponents right after he was resurrected. Whether the participants were engaged in socializing with other players or playing independently, interactive learning promoted personal investment and encouraged both their social interactions and autonomy.

Collaborative learning environment

In presenting the instructional context for reading engagement, Guthrie (2001) interprets collaboration as constructing knowledge socially in a learning community. Indeed, this essential element of conventional classroom instruction is evidently displayed in *WoW*. For example, Kyle provided buff to and accepted buff from a player. Jim accomplished two quests with the help of a player he encountered. In Mark's game play, he was always involved in collaboration with those who were in the raids. It is only Fei who was observed not collaborating with others but he expected indispensable collaboration if he would reach a higher level.

Vygotsky's notion of zone of proximal development (ZPD) demonstrates how collaboration occurred in *WoW*. According to Vygodsky (1978), a distance exists between the learners' actual developmental level without any external assistance and his/her potential level with external assistance. The assistance could either be from adult guidance or peers' collaboration. This notion could be applied to Jim and Mark's experience since both of them received assistance from others in the game play. Jim's friendly encounter with Sileo is a good example of how ZPD was fostered in collaboration with a more capable peer (Vogotsky, 1978). Admittedly, Jim might be able to finish the two quests with independent problem solving even though he had

difficulties finding some designated places. However, it would take him extended time to achieve the goals, however. His internal developmental process was accelerated by interacting with Sileo. In this case, Jim benefited from the "virtual and synchronous team" (Dannecker et. al, 2008) in *WoW.*

By analyzing conversations in *WoW*, Nardi, Ly and Harris (2007) uncovered three areas of learning in *WoW*: fact finding, tactics and strategy, and game ethos. They found that player-produced conversations in *WoW* fostered a zone of proximal development (ZPD) supplied by more experienced peers. In line with their findings, Mark mentioned how he and his friend, Ananivana, started to help each other from the very beginning. Their shared experience would be the factor that boosted their learning. The ZPD was achieved through the scaffolding constructed through the peer collaboration.

As is evident in the discussion above, *WoW* cultivates scaffolded, interactive, and collaborative learning opportunities in a multimodal environment. Gaming environments provide a setting for literacy practices involved in communication and exchanging information with those in an affinity group "sharing goals, values, understanding, knowledge and expertise" (Selfe, Mareck & Gardiner, 2007, p. 31). The virtual world in *WoW* provides a social context where players can communicate through text or voice chat. As expressed by Selfe, Mareck, and Gardiner (2007), communication in gaming environments is increasingly multimodal and effective cross linguistic and cultural boundaries. I would add that the kind of communication may also cross age boundaries. For example, Jim had a friendly encounter with Sileo, who said he was only seven years old. Without asking for anything in return, Sileo involuntarily offered

Jim help to finish two quests. Seeing that Sileo kept having typos, Jim believed that Sileo was a boy who was much younger than him. However, this did not prevent Jim from playing with Sileo, who offered him much help. Similarly, Mark expressed that he did not care how old others were who played with him as long as they acted "good" with the responsibility of an adult.

Commonality exists between the instructional context for reading engagement and the learning environment in gaming, though they are not completely congruent with each other (see Figure 6-4). First, three of the ten components, including learning and knowledge goals, autonomy support, and strategy instruction, resonate with some features in the scaffolded learning environment in *WoW*. Second, collaboration in RLE is evidently consistent with the collaborative learning environment in *WoW*.

Third, two factors involved in a conventional reading classroom undergo noticeable transformations in multimodal learning environment. One factor is interesting texts for instruction in RLE, which becomes multimodal instructions in the game environment. The other factor is teacher involvement, which is quite essential in RLE. However, teacher involvement is not in the learning environment where peers assist each other. Fourth, two components of instructional context for reading engagement, praise and rewards, and evaluation, which directly affect learners' extrinsic motivation, can also be seen in *WoW*. For instance, Loots are given when players level up and win battles. Players are evaluated by the game system and their evaluations reflect in the experience bar and the indicators of rage and health. Rewards and evaluation in the game are actually a part of instant interactions between the player and the game.

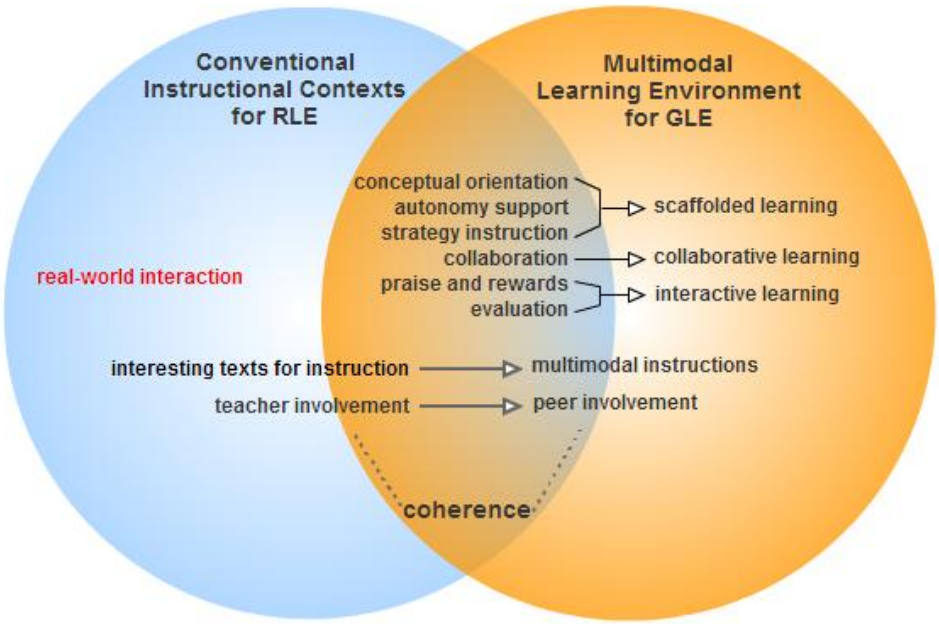


Figure 6-6. Venn diagram of RLE and GLE.

Note: RLE and GLE stand for reading literacy engagement and gaming literacy engagement, respectively. To be consistent with the visual representation of the engagement model of reading development by Guthrie (2001), "conceptual orientation" is used instead of "learning and knowledge goal" in this figure.

Fifth, only one of the instructional factors of the RLE model, real-world interaction, does not overlap with the learning environment in *WoW*. Real-world interaction, which suggests the necessity of providing real-world experience related to the learning goal (Guthrie, 2001). It is maintained that the interplay between learners' real-world experience and the knowledge they are learning usually evoke learners' keen attention and a sense of wonder (Gurthrie, 2001). However, the participants in this study did not relate their game play in the virtual world of *WoW* with their real life. So, "real-world interaction" does not fit in the gaming environment.

In addressing the instructional context for reading engagement, Guthrie (2001) discusses each of the nine instructional processes in isolation and then emphasizes the coherence of all the components, which he adds as the tenth component. Similarly,

connections also exist across the three aspects of the learning environment though they are discussed separately. On the one hand, a learning environment would not be supportive without collaboration and interaction. On the other hand, scaffolding emerges in collaboration and interaction. Furthermore, interaction is the precondition for collaboration and, in turn, collaboration makes interactions more meaningful and engaging. In a nutshell, even though the three aspects of scaffolding, collaboration, and interaction are discussed separately, they are not mutually exclusive or independent of each other. On the contrary, they overlap and supplement each other in very intricate ways.

L2 Literacy Engagement Model in *WoW*

The four literacy practices, including information seeking, strategizing, problem solving, and socializing were depicted in Chapter 5 to unfold a game world in which literacy was understood as effective functioning in situated social practices through meaning making across various modalities. Later, the attention was given to the intricacy of reading and writing in gaming and the complexity of the multimodal learning environment in *WoW*. It boils down to one question: what does L2 literacy engagement in *WoW* mean? This chapter will culminate in discussing the nature of L2 literacy engagement in *WoW*.

Inspired by Guthrie and his colleagues' engagement model of reading development (Guthrie, 2001), I draw a visual representation below to demonstrate the participants' literacy engagement in *WoW* as a dynamic system.

The diagram on the left of the figure shows the relationship among literacy practices, literacy activities, and gaming activities. All literacy practices are embedded

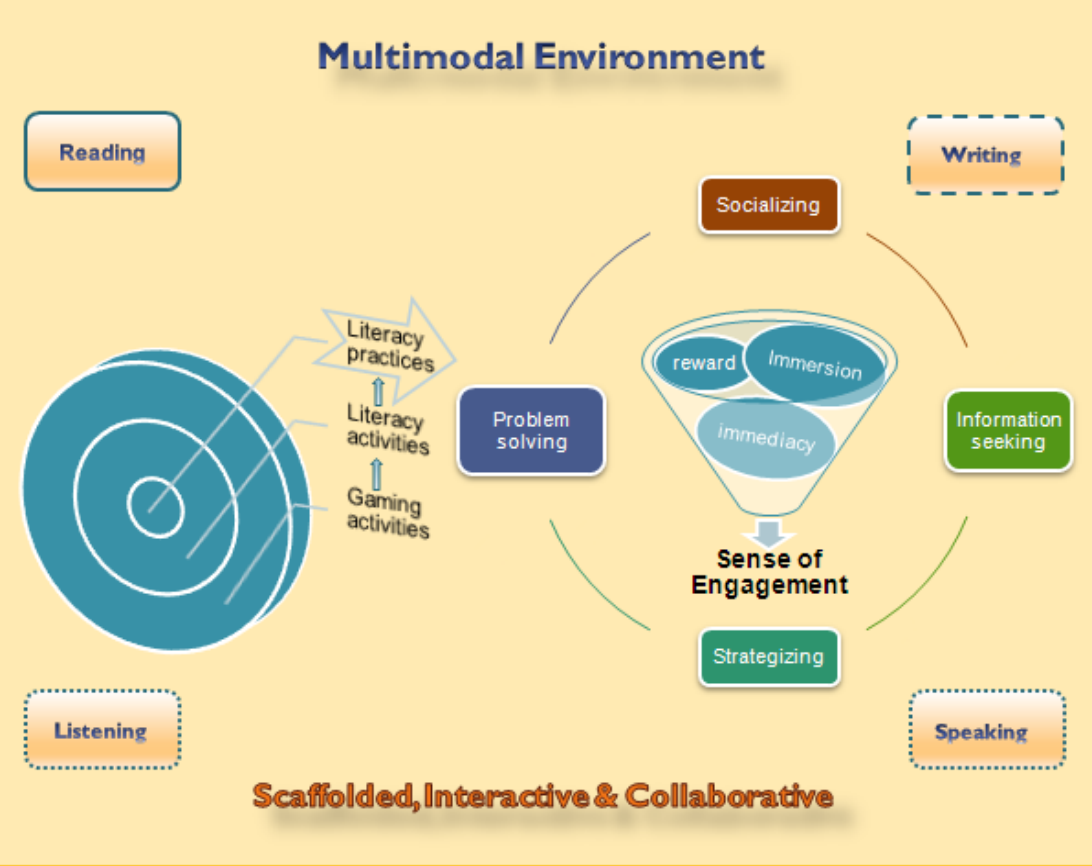


Figure 6-7. Literacy engagement in *WoW*.

Note: The variety of the frame lines (from solid lines to dashed lines) of the four components (reading, listening, writing, and speaking) indicates the varied degrees of occurrence of the four language practices. Reading was most often observed language practice in the gaming process. Writing occurred less than reading but more than listening and speaking.

in literacy activities, which are derived from gaming activities. In other words, gaming activities as the most observable activities in gaming provide opportunities where the literacy is utilized. To follow the arrow around literacy practices, the four aspects of literacy practices including socializing, information seeking, strategizing, and problem solving are depicted on the right. Sense of engagement occupies a central location with the four literacy practices around it. This means the four literacy practices that occur concomitantly foster the participants' sense of engagement, which involves the issues of reward, immersion, and immediacy. The sense of engagement reflects the participants'

"enthusiasm, liking and enjoyment" (Guthrie, 2004) in game play. It is noted that Guthrie's framework for understanding literacy engagement derives from research in the classroom context and using print literacy. In this study, the participants were involved in multimodal meaning-making processes. Moreover, all the participants were immersed in a scaffolded, interactive, and collaborative learning environment, where English is the second language. Thus, the multimodal environment is prominent in the GLE model generated in my study.

The participants were engaged in a complex process which involved all the four literacy practices not any single literacy practice in the game process. Only in this way, could their sense of engagement be stimulated through being completely immersed in the gaming environment, being rewarded upon accomplishments, and being caught by immediacy in gaming. The participants' engagement with *WoW* was primarily confined within the game. In contrast, Burn (2006) found game players' engagement does not finish when the game ends. According to Burn (2006), several activities out of the game are found in committed game players' experience, which include joining online communities, contributing to message boards, art galleries, and writing groups. In this study, three of the four literacy practices, that is, socializing, strategizing, and problem solving, happened within *WoW*. Only information seeking occasionally occurred around Kyle's and Mark's game play.

While playing *WoW*, the English language, as a second language, was necessary for the participants to complete the task-based activities. In terms of language use, reading and writing were the main language practices in which the participants were involved. Furthermore, reading in the game is not confined to reading words. Reading

is multimodal and intertwined with words, symbols, images, numbers, colors, and occasionally sounds, all of which shaped a rhetorical context for the participants. Though writing was not as indispensable as reading in their *WoW* play, informal writing did occur in all the participants' game play process, though the frequency varied. The experienced player, Mark was most active in using informal and specialized game language to chat with other friends. Listening and speaking were optional literacy practices, which happened infrequently. Some simple instructions could be heard as long as the participants turned the volume on when they played the game. Of the four participants, only once did Mark use voice chat with other players once, through which he talked with others in an interactive way. The multimodal environment in *WoW* offered the participants a variety of literacy options that they could choose to effectively function in the game world.

To summarize, exploring the literacy practices that the participants were engaged in reveals the nature of the literacy engagement. A bottom-up perspective on gaming activities, literacy activities, and literacy practices provides the lens through which the nature of the literacy engagement can be viewed in a dynamic way. In *WoW*, literacy engagement occurs when a player's excitement and enthusiasm are aroused by the joint functioning of reward, immersion, and immediacy in a multimodal gaming environment replete with scaffolding, interaction and collaboration. The player is involved in a dynamic process of socializing, information seeking, strategizing, and problem solving simultaneously within and around the game. To the participants and others who learn English as their second language, the exposure to the English

language is increased owing to the fact that reading and writing are incorporated into the gaming process while listening and speaking tend to be optional practices.

Chapter Summary

This chapter discussed the conditions in which the literacy engagement occurred. First, I discussed the L2 practices involved in *WoW* process, in which reading and writing were far more significant than listening and speaking. Secondly, by using the engagement model of reading development by Guthrie (2001), I analyzed the literacy engagement process and multimodal learning environment embedded in *WoW*. It was found that there is a large degree of overlap between the instructional context for reading engagement and the learning environment for gaming engagement. However, unlike Guthrie's reading engagement model that is set in the classroom, *WoW* is constructed in a multimodal environment with an abundance of information in varied modes. Finally, on the basis of the findings, I used a diagram to demonstrate the dynamic process and the context of L2 literacy engagement in *WoW*.

CHAPTER 7
CONCLUSIONS AND IMPLICATIONS

Conclusions

In previous research, literacy engagement has been confined to reading and writing in print in the classroom. Also, much research has been conducted with native English speakers that have yielded findings on their school literacy, thus not addressing out-of-school literacies of either native English speakers or ELLs. There is a need for studies that lend themselves to ELLs' out-of-school literacies, especially literacy activities initiated by the students themselves. Furthermore, a good deal is known about how connecting students' real life experiences can promote learning, but far less is known in what ways students' gaming experience can serve their academic learning.

This descriptive study demonstrated the literacy practices that four adolescent ELLs were engaged in within and around *WoW*. I took a bottom-up approach to presenting the findings in the themes of gaming activities, literacy activities, and literacy practices. An array of gaming activities were found within the participants' game process, which outnumbered their around game process. As newbies in *WoW*, Fei, Jim and Kyle focused on doing quests to level up. All their other gaming activities such as managing economy and characters, exploring and social interacting were also centered on questing. The only experienced *WoW* player, Mark, was involved in active chatting with other players. Insofar as the literacy activities were concerned, it was found that reading was a core literacy activity both within and around *WoW*. Also, in marked contrast to only three literacy activities identified around the game, seventeen within-*WoW* literacy activities were found. A deeper analysis pinpointed four literacy practices including socializing, information seeking, strategizing, and problem solving, which

occurred concurrently in the participants' gaming process. Information seeking was found as the core literacy practice in the participants' gaming experience. As Beavis (2002) asserts, the information in the game world presented "in a variety of modes – verbal, visual and symbolic" (p. 53). Also, the participants privileged symbols and numerals in reading highly visual texts in the game process.

By examining their literacy engagement in *WoW* and the gaming environment where the engagement took place, this study found that scaffolded, interactive, and cooperative multimodal learning environment fostered the adolescent ELLs' L2 literacy engagement in gaming. This multimodal learning environment also led the participants to be more motivated and competent in seeking individual success in the virtual world. The instructional context for reading engagement proposed by Guthrie (2001) shed light on understanding the participants' literacy engagement occurred in *WoW*. However, the multimodal learning environment in *WoW* features the opportunities to use multiple modes such as words or images, multiple communication channels, and multiple information sources. These last two include voice or text chat and use of peers or internet search, respectively, for investigation and presentation of their learning in the game process. They understand how important the implicit clues and the explicit instructions in the games are and they can continue exploring in the game world. Multiple sources could be attained within and around *WoW*, and the participants tended to search for the information online or ask others directly. In addition, the social interactions in their pursuit of problem solving enhanced their motivation. *WoW* broadens the participants' L2 literacy from conventional print media to a complex and playful multimodal environment.

To sum up, the multiple case studies of the four adolescent ELLs' literacy experience in *WoW* demonstrated that video games, as a type of multimodal literacy, hold great potential in the literacy development of adolescents. Four main literacy practices including socializing, information seeking, problem solving, and strategizing occur in tandem to foster the adolescents' engagement in playing the game. Since English is one of the dominant languages in the gaming world, video games provide English language learners with a "fun" area to learn while playing, or, a zone of learning to play. MMORPGs like *WoW* hold the promise and potential for English language learners' literacy engagement as long as a multimodal learning environment with attainable challenges is provided.

Suggestions and Recommendations for Future Research

Given the findings of this study, I propose several suggestions for further research. First, the participants in this study were either quite experienced *WoW* player or novice players. Future research involving players at varied levels will enrich our views on literacy opportunities that may vary for different level game players.

Second, all the participants in this study were adolescent males. The only female adolescent ELL who played *WoW* found in my recruitment was, unfortunately, not allowed to participant in my research by her father. It is important to explore the gender role in adolescents' literacy involvement embedded in gaming in any future research.

Third, newly arrived ELLs will enable the future researchers to have more opportunities to investigate L2 acquisition that may occur in the game process. This study only recruited four participants who had been in the US for several years ranging from four to nine. The participants, especially Mark who had been in the US for seven

years and Fei who had been here for five years, had a good command of the English language. Their second language English tended to pose fewer barriers in their understanding and communication. Newly arrived ELLs should allow more insights into their linguistic and cultural experiences in a language-enriched gaming environment. In terms of the four modes of language, the study also found that reading and writing were indigenous to the game playing process, whereas listening and speaking were optional. If possible, it would be more interesting to know how ELLs are involved in the other two linguistic practices, namely, listening and speaking.

Lastly, this study is not directed to provide pedagogical suggestions of using computer games in the classroom. Instead, this study initiates the first step to understand how adolescent ELLs are engaged in L2 literacy practices in gaming outside the classroom. Still, it is likely to see that future studies will explore the ways that video games could be applied to school teaching and learning from an innovative perspective so that the "new digital divide" (Buckingham, 2007) between students' in-school literacy and out-of-school literacy would be lessened. Undoubtedly, the exploration of using video games for academic purposes will be revolutionary in education for today's' millennial youth.

Concluding Thoughts

As an English language learner myself and a new researcher with an interest in gaming, I hope this study is a springboard for further research on ELLs 'multiliterate, cross-language, and cross-cultural experiences in a virtual gaming world. I call for future research on how a multimodal, playful learning environment replete with scaffolding, interaction, and collaboration fostered in gaming could fit into adolescents'

school learning. If educators want to investigate the principles embedded in games and endeavor to create a game-like learning environment to engage the disengaged students, we should attend to the features of games that appeal to the adolescents.

The participants' experiences shed light on the ways in which some implications can be drawn for parents and teachers. The game process per se could be an opportunity for the players to investigate, construct, and present learning in a fun way. Being a competent *WoW* player requires much reading and the ability to explore and utilize the learning environment to enhance their skills. By examining their gaming experience as a form of "alternative literacies" (Sanford & Madill, 2007), which usually carry negative connotations, this study uncovers the literacy practices involved in gaming.

First, parents can learn about what their children do in game play. Parents are expected to play a guiding role to maximize the potential of video games in children's literacy experience rather than simply preventing children from playing video games, which, unfortunately, makes the situation worse. Parent-child conflict caused by game play would be soothed if parents were willing to take time to know what children really do while playing games. To be specific, parents may be inspired to think about their crucial role in guiding children to make wise decisions in game play. To do this, parents should open their eyes, ears, and minds. Parents are encouraged to be involved in children's game play starting from looking at what their children actually do and listening to their voices about game play. It is also necessary for parents to initiate open-minded conversations about game play. Like Kyle's mother who noticed that game play took much of Kyle's time and also realized how game play contributed to his social life,

parents should urge their children to view gaming critically. Kyle's mother even expected his son to know not only how to play the game but also how to design the game, which may be an option for his future career. As long as parents know more about both the downside and the upside of game play, they can make the best use of game play for their children's literacy.

Second, though pedagogical suggestions are not the primary focus of this study, unfolding the participants' gaming life history can expand teachers' knowledge about the gamers' rich literate world in gaming. Teachers, especially those who teach second or foreign languages, may be inspired to use games to engage students in language learning and invite them to be immersed in a new culture. Teachers could use students' interest in gaming to boost their motivation for school learning. To do so, teachers should know what students do in gaming and find the connections between games and academic learning. They may encourage students who are interested in gaming but reluctant in school to share their experience and thoughts in gaming and to use their interest and pleasure as a starting point for academic learning. Teachers may create some learning activities to bridge the gap between the students' gaming experience and school reading and writing activities. For example, teachers can ask students to write a narrative about their adventures in the game world or let students use their text chat in the game to compare with academic writing for understanding language use for different purposes.

Taken together, this study is not to reinforce that video game play is invariably beneficial in all aspects for adolescent players. As noted, Fei said *WoW* was not designed for educational purposes. *WoW* cannot be an ideal language learning tool.

Instead, this study urges educators and parents to get to know those who are attracted to computer games and find a way to channel their interest of gaming into academic learning. While this is beyond the scope of this study, it is important to keep in mind that educators and parents should approach adolescents who play games with enlightened attitudes and reach them by knowing what they do in gaming. Clearly, at the cutting edge of literacy education, more research is called for to examine adolescents' game literacy first before we can creatively apply their gaming literacy to classroom instruction.

APPENDIX A
PARENTAL CONSENT

Dear Parent/Guardian,

I am a doctoral student in the College of Education at the University of Florida. I am conducting my dissertation research under the supervision of Dr. Maria Coady. The purpose of this study is to explore how adolescent ELLs are engaged in second language literacy practices through *World of Warcraf* (*WoW*), a massively multiplayer online role-laying game (MMORPG) by Blizzard Entertainment. I am inviting your child to participate in this study because I would like to know about your child's experience in playing this game.

The study will last six weeks. With your permission, I would like to conduct two one-hour formal interviews with your child. At the beginning of the study, your child will be asked about her/his prior gaming experience. A second interview about her/his experience in playing *WoW* will be conducted at the end of the study. The interviews will be tape-recorded. Also, I will observe your child playing *WoW* once a week, which will last between 60 and 90 minutes. In total, there are six to nine hours of observation over six weeks. I will take field notes and video tape what your child does while playing the game. A screen capture program, *Camtasia*, will also be used to record the game play on the screen. After each observation, I will let your child view the video recordings and ask her/him to describe what she/he does while playing *WoW*. In addition, I will collect your child's online posts about *WoW* if she/he permits. All interviews and observations will be scheduled and conducted in a place for your child's convenience. With your permission, I will collect data at your home if the computer and the Internet is accessible. Or data can be collected at the computer lab in School of Teaching and Learning at the University of Florida. The audio and video recordings will be accessible only to me, the researcher for research purpose. The audio recordings will be destroyed six months after I collect data. With your consent, the video recordings of what your child does in playing *WoW* will be kept for future conference presentations if needed.

Your child's identity will be kept entirely confidential as required by law. There are no more than minimal risks. I can help you to set up play schedules for your child in *WoW*'s parental control system. Though there are no direct benefits to your child as a

participant in this study, it is hoped she/he will realize the learning potential of computer games and transform her/his gaming experience to academic learning. For compensation, I will pay *WoW* monthly fee of $19.99 for two months during the data collection phase. In addition, a Best Buy gift card worth $50 will be given to your child if she/he completes the study. Your child does not have to answer any questions that she/he does not wish to answer. Also, she/he is free to withdraw consent and may discontinue her/his participation at any time without consequence.

If you have any questions about this research protocol, please contact Zhuo Li at (352) 871-1482 or zhuoli@ufl.edu. You may also contact the research supervisor, Dr. Maria Coady, at (352) 392-9191 ext. 232 or mcoady@coe.ufl .edu. Questions or concerns about your child's rights as a participant may be directed to the IRB02 office, University of Florida, Box 112250, Gainesville, FL 32611, (352) 392-0433.

Please sign and return this copy of the letter to me. A second copy is provided for your record. By signing this letter, you give me permission to collect interview and observation data with your child. This report will be submitted to my dissertation research committee as part of my fulfillment of the requirements for the degree of doctor of philosophy. Also, by signing, you give me permission to use these data from your child in future presentations and publications.

Thank you!

Zhuo Li

I have read the procedure described above. I voluntarily give my consent for my child, _____, to participate in the study entitled, "Adolescent ELLs' second language literacy engagement in *World or Warcraft* (*WoW*)." I have received a coy of this consent.

Parent/Guardian Date

2nd Parent/Witness Date

APPENDIX B
PARENTAL CONSENT (CHINESE)

家长同意书

亲爱的家长/监护人：

您好！

我是佛罗里达大学教育学院的博士生。由佛罗里达大学教育学院科蒂教授指导，我正在进行我的论文研究。我研究的目的是了解青少年英语学习者在玩一大型多人在线角色扮演游戏 ----“魔兽世界”的同时是怎样学习语言的。我邀请您的孩子参与该研究课题。

该研究将为期六周。所有采访和观察都在孩子方便的时候和地点进行。如果您同意并且条件允许，我可以到您家收集数据。 或者，我可以接孩子到佛罗里达教育学院的电脑室进行采访或者观察。我将对您的孩子进行两次（1 小时/次）采访。在研究初期，我将采访您孩子关于他/她的游戏经历。针对孩子玩“魔兽世界”的经历，第二次采访将在研究结束之前进行。采访内容将会录音以用于后期数据分析。此外，我也会一周观察一次孩子玩该游戏，每次大概 60 到 90 分钟，六周共计 6 小时到 9 小时。观察的同时，我将做观察记录并将孩子的游戏过程作录影。 另外，我也会使用一款捕捉屏幕影音的软件，*Camtasia*，记录电脑屏幕中的游戏过程。 每次观察结束后，我将让孩子看录影并描述他/她在游戏过程中的活动。期间，如果孩子愿意分享，我会收集孩子在游戏论坛的帖子。采访结束六个月后，录音资料将被销毁。如果需要，在得到您的同意后，孩子游戏过程的影像资料将保存用于今后的学术研讨演示。

为保障孩子的隐私权，我绝不会采用孩子的真实姓名。在参与研究过程中，将不会有任何风险。我可以帮助您在该游戏系统里设定家长监管，规定好孩子打游戏的时间。虽然孩子没有其他直接受益，但我希望该研究能帮助孩子理解游戏与学习的联系并将其游戏经历用于学习。收集数据期间，我将代付两个月（19.99 美金/月）的网络游戏费用。 如果孩子配合完成所有数据收集，我将赠送价值 50 美金的 Best Buy 礼物卡。在任何时候，您的孩子都可以提出终止参与该研究而不会有任何惩罚或者利益损失。

如果您对该研究有任何疑问，请联系李卓（电话:352-871-1482 或电子邮箱：zhuoli@ufl.edu）。您也可以联系我的研究指导教师，科蒂教授（电话：352-392-9191 转 232 或电子邮箱：

mcoady@coe.ufl.edu。 如果对孩子在参与研究过程中的权益有疑问，您也可以直接联系佛罗里达大学研究项目监督委员会，其联系方式如下：

佛罗里达州甘城

112250 邮箱

佛罗里达大学研究项目监督委员会

佛罗里达，32611

办公电话：352-392-0433

如果同意您的孩子参与我的研究，请在该同意书上签字并交还给我。另一份签字后的同意书将由您自己保留。您的签字即表示我已经获得您的许可对您的孩子进行观察和采访。基于收集数据的报告，我将提交给我的论文答辩会作为我博士学位要求的一部分。您的签字也表示我可以将收集数据用于学术研讨或者发表。

感谢您对我研究的大力支持！

李卓

我已经获悉所有以上关于研究项目“青少年英语学习者在‘魔兽世界’中的第二语言学习”的事宜。我自愿允许我的孩子, _____, 参与该研究并且已经获得一份同意书作为保留。

家长姓名 日期

家长/证人 日期

APPENDIX C
CONSENT TO AUDIO/ VIDEO RECORDING

I, _____, hereby give my permission to audiotape and/or videotape my child's game play process for the purpose of Zhuo Li's dissertation research. I grant permission for using the video for Zhuo Li's dissertation writing and for her future presentations and publications.

.

_____

Printed name of parent

_____

Signature of parent

_____

Date

APPENDIX D
CONSENT TO AUDIO/ VIDEO RECORDING (CHINESE)

录音/录影同意书

我，_____, 就李卓的论文研究需要，同意我的孩子参与录音和录影。我同意李卓将研究数据收集中关于我孩子的影音资料用于其论文写作和今后的学术研讨或者发表。

_____

家长姓名（正楷书写）

_____

家长姓名（签名）

_____

日期

APPENDIX E
STUDENT ASSENT

Dear Student,

I am a doctoral student in the College of Education at the University of Florida. I am doing a research to understand how adolescent ELLs are engaged in second language learning through *World of Warcraf* (*WoW*), a massively multiplayer online role-laying game (MMORPG) by Blizzard Entertainment. I am looking for ELLs to take part in the study for six weeks.

If you agree, I would like to conduct two one-hour formal interviews with you. At the beginning of the study, you will be asked about your prior gaming experience. At the end of the study, I will interview you about your experience of playing *WoW*. The interviews will be tape-recorded. Also, I will observe you playing *WoW* once a week. Each observation will take 60 to 90 minutes. In total, there are six to nine hours of observation over six weeks. I will take field notes and video tape what you do while playing *WoW*. A screen capture program, *Camtasia*, will also be used to record the game play on the screen. After each observation, I will let you review the video recordings and ask you to describe your experience of playing the game. In addition, I will collect your online posts about *WoW* if you would like to share them with me. All interviews and observations will be scheduled and conducted in a place for your convenience.

This study will help me understand how and what adolescent ELLs can learn about reading and writing in playing *WoW*. It is completely your choice whether or not you decide to participant in this research, and there will be no penalty if you choose not to participate. During I observe your game play, I will pay *WoW* monthly fee of $19.99 for two months. If you help me to complete the study, I will give you a Best Buy gift card worth $50 to appreciate your great help. I would like to ask for your agreement to participate in the study. You also have the right to refuse to answer any questions you do not wish to answer and stop participation in the study at any time.

I am really looking forward to learning from you about your learning experience in playing *WoW*. Thank you for your help!

Zhuo Li

Zhuo Li has explained her research to me, and I would like to participate in this research on ELLs' experience in playing *WoW*. I have received a copy of this letter.

APPENDIX F
PARTICIPANT RECRUITMENT FLYER

RESEARCH PARTICIPANTS NEEDED

Does your kid like playing computer games?

Do you wonder what and how s/he can LEARN while playing?

Do you want to help use her/his gaming experience for LEARNING?

8-12 graders (aged 13-18) who speak CHINESE as first language

are invited to take part in a 6-week study of :

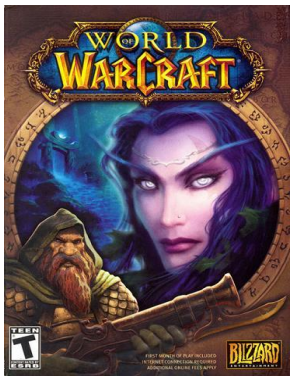
Adolescent English Language Learners' Second Langage Literacy Engagement in World of Warcraft (WoW)

Participants will be interviewed and invited to play *WoW* for free!

The researcher will pay *WoW* monthly fee of **$19.99** for two months and give a Best Buy gift card worth **$50** to each participant!

For more information about this study, or to volunteer for this study, please contact:

Zhuo Li
School of Teaching and Learning, College of Education
University of Florida
(352) 871-1482
Email: *zhuoli@ufl.edu*



APPENDIX G
PARTICIPANT RECRUITMENT FLYER (CHINESE)

招募研究参与者

你的孩子喜欢打电脑游戏吗？

你想了解她/他在玩中**学**到了什么和怎么**学**的吗？

你想帮助她/他将游戏经历用于提高学习吗？

欢迎 **8-12 年级生（13-18 岁）**参加为期 6 周的研究：

青少年英语学习者在"魔兽世界"中的第二语言学习

参与者将接受采访和免费玩"魔兽世界"！

研究人员代付两个月**$19.99/月**的网络游戏费用

并且

回馈一张价值**$50** 的 Best Buy 礼物卡！

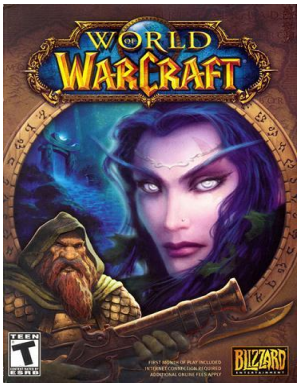
欲知该研究的详情或自愿参加研究，请联系：

李卓

佛罗里达大学教育学院教学系

(352)871-1482

电邮：zhuoli@ufl.edu



APPENDIX H
ORAL SURVEY

I'm a doctoral student in the College of Education at the University of Florida. I am conducting a research about ELLs' experience in playing the online game, *World of Warcraft* (*WoW*). Would you please help to answer a few questions?

1. How old are you?

2. Which grade are you in?

3. How long have you been in the U.S.?

4. On average, how many hours do you play computer games per day?

5. Have you played *WoW* before?

    1) If yes, when did you begin to play *WoW*? What language do you usually use in this game? What level of player are you now?

    2) If not, do you want to try this game?

Thanks for your time.

APPENDIX I
ORAL SURVEY (CHINESE)

口头问卷

我是佛罗里达大学教育学院的博士生。我正在进行我的论文研究。我研究的目的是了解青少年英语学习者在玩一大型多人在线角色扮演游戏 ----“魔兽世界”的同时是怎样学习语言的。你愿意帮助回答几个问题吗？

1. 你几岁了？

2. 你读几年级？

3. 你来美国几年了？

4. 平均来说，你每天打几个小时的电脑游戏？

5. 你玩过“魔兽世界”吗？

   1） 如果玩过，你什么时候开始玩的？用什么语言？游戏几级了？

   2） 如果没有，你想试试玩这个游戏吗？

谢谢你的时间！

APPENDIX J
INTERVIEW QUESTIONS

I want to know your experience in playing *World of Warcraft (WoW)*. I would like to hear how you think you can learn through *WoW* or you can share with me anything about your experience in *WoW*.

Interview 1

Questions asked at the beginning of data collection:

I would like to ask you a few questions:

- When did you first play computer games?
- What games have you played?
- What games do you like best? Why?
- Can you think about how gaming is connected to school learning? Please give examples to explain.
- Please describe the activities in the games that affect your English learning.
- As an English language learner, how do you evaluate your English learning experience generally in the games you have played?

Is there anything that you would like to add? Do you have any questions or comments? Thank you for your time.

Interview 2

Questions asked at the end of data collection:

I would like to ask you a few questions:

1. What makes you interested in *WoW*? Why?

2. Which parts of this game do you like best? Why?

3. Which parts of the game are most helpful for your English learning? Why?

4. How do you figure out the rules of the game when they are new to you?

5. How do you solve gaming problems, for example, when you have difficulties in understanding what you should do?

6. Do you communicate with other players out of *WoW*? If yes, please describe the communication with them.

7. Do you have any friends who are also interested in *WoW* in your real life? Do you talk about *WoW* with them? Describe the communications about *WoW* with your friends in real life.

8. In addition to English, what knowledge is quite necessary for you to play *WoW* well? Besides English, what else do you learn playing *WoW*?

9. In your opinion, can *WoW* be used for students to learn English in the classroom? Please explain why or why not. If yes, what should be done to make the game better for your classroom learning?

Is there anything that you would like to add? Do you have any questions or comments? Thank you for your time.

APPENDIX K
INTERVIEW QUESTIONS (CHINESE)

采访问题

我希望了解你玩“魔兽世界”的感受，比如你认为你怎么能学习到一些有用的东西。你也可以跟我分享任何关于“魔兽世界”的想法。

采访 1

数据收集初期提问

我想问你几个问题：

1. 你什么时候开始打电脑游戏的？
2. 你都玩过什么电脑游戏？
3. 你最喜欢什么电脑游戏？为什么？
4. 你能想想游戏经历与学校学习在哪些方面有关？请举例说明。
5. 请描述一下对你的英语学习有影响的一些游戏活动。
6. 作为英语学习者，你怎么评价你在游戏中的英语学习经历。

你有什么要补充的吗？有什么问题或者评论吗？谢谢你的时间。

采访 2

数据收集末期提问

我想问你几个问题：

1. 你对“魔兽世界”里什么最感兴趣？为什么？

2. 你最喜欢这个游戏的哪些东西？为什么？

3. 这个游戏的哪些方面对你学习英语有所帮助？为什么?

4. 游戏规则里，如果有不懂的地方，你是怎么弄明白的呢？

5. 你是怎么去解决问题的，比如说，当你不知道你应该怎么做的时候？

6. 你和其他玩家在游戏外交流吗？如果有，请描述你们的交流。

7. 你身边有朋友也玩这个游戏吗？你们谈论这个游戏吗？如果是，请描述你们的交流。

8. 除了英语，你认为要玩这个游戏还需要哪些必备的知识? 除了英语，你学到了其他东西吗？

9. 你认为“魔兽世界”可以用到课堂英语教学吗？无论是或者否，请解释你的答案。如果你觉得可以，应该怎么做让这个游戏可以更好地运用于课堂教学？

你有什么要补充的吗？有什么问题或者评论吗？谢谢你的时间。

APPENDIX L
TABLE OF GAMING ACTIVITIES WITHIN *WOW*

Gaming activities (within *WoW*)			Participants (*WoW* level)			
			Fei (lvl8)	Jim (lvl12)	Kyle (lvl11)	Mark (lvl80)
Doing quests	Acquiring quests	from exclamation marks	✓	✓	✓	
		from Wanted Posters			✓	
		from quest items			✓	
	Accepting quests		✓	✓	✓	✓
	Rejecting quests			✓	✓	
	Processing quests	Killing enemies/some certain items	✓	✓		
		Killing enemies and deliver information /items to NPCs/places	✓	✓	✓	
		Killing enemies and reporting to NPCs	✓	✓	✓	
		Collecting items (and delivering them to NPCs/places)	✓	✓	✓	✓
		Reading items and talking/reporting to NPCs	✓	✓		
		Searching people/places/signs			✓	
		Defeating, burying and reporting	✓			
		Delivering items to NPCs	✓		✓	
		Speaking with NPCs	✓	✓	✓	
		Presenting something to NPCs	✓			
		Exploring a place and report back to NPCs			✓	
		Retrieving special items for NPCs/a specific purpose		✓	✓	✓
		Destroying enemies' plans/infrastructures		✓		✓
		Using an assigned item to capture enemies (and return the item to an NPC)				✓
	Completing quests	Claiming rewards	✓	✓	✓	✓
	Tracking quests	Retrieving quest logs	✓	✓	✓	✓
Social interacting	Grouping		✓	✓		✓
	Battling	Player vs Player(PvP): dueling		✓		
		Player vs Player (PvP):Horde vs. Alliance				✓
		Player vs Environment (PvE): raiding				✓
	Chatting		✓	✓	✓	✓

Gaming activities (within *WoW*)		Participants (*WoW* level)			
		Fei (lvl8)	Jim (lvl12)	Kyle (lvl11)	Mark (lvl80)
Managing characters	Equipping characters	✓	✓		✓
	Repairing armors	✓	✓	✓	✓
	Accepting training	✓		✓	✓
	Managing backpacks/inventory	✓	✓	✓	✓
	Recovering health	✓	✓	✓	✓
Managing economy	Buying and selling	✓	✓	✓	
	Banking			✓	
	Auctioning				✓
Exploring and checking	Day/Night clock	✓	✓		✓
	Map	✓		✓	✓
	Calendar		✓	✓	✓
	NPCs	✓		✓	✓
	Character info	✓	✓	✓	✓
	Spellbook	✓	✓	✓	✓
	Achievement points	✓	✓		✓
	Quest log	✓	✓	✓	✓
	Backpack	✓	✓	✓	✓
	Action bar	✓	✓	✓	✓
	Experience bar	✓	✓	✓	✓
	Interface panel	✓	✓		✓
	Auction house			✓	✓
	Bank		✓		
Others	Travelling by using Hearthstone	✓	✓	✓	✓
	Finding a home	✓		✓	
	Resurrecting (choosing to be healed by a spirit healer or retrieving corpse)	✓	✓	✓	✓
Total number of each participant's activities		35	34	35	32

APPENDIX M
TABLE OF LITERACY ACTIVITIES WITHIN *WOW*

Gaming Activities (within *WoW*)			Literacy Activities (within *WoW*)
Doing Quests	Acquiring quests	from exclamation marks from Wanted Posters from quest items	discovering (quests/problems) reading (symbols, text)
	Accepting/ Rejecting quests		reading (text, symbols, numerals) decision making
	Processing quests		reading (text, symbols, numerals) questing (demonstrating understanding by doing)
	Completing quests	Claiming rewards	reading(text, numerals, symbols) comparing decision making
	Tracking quests	Retrieving quest logs	reading (text, numerals) planning
Social interacting	Grouping		decision making interacting (in chatting)
	Competing	Player vs Environment (PvE): raiding Player vs Player(PvP): dueling Player vs Player (PvP): Horde vs.Alliance	advertising recruiting negotiating interacting (rejecting/accepting,recruiting,deploying) reading (text, numerals, symbols) writing (in chatting) competing
	Chatting		reading (text) writing
Managing Characters	Equipping characters		reading (text, numerals, symbols) decision making
	Repairing armors		discovering (weapon smiths) reading (text, numerals, symbols) comparing decision making repairing

Gaming Activities(within *WoW*)		Literacy Activities(within *WoW*)
	Accepting training	discovering(trainers) reading (text, numerals, symbols) comparing decision making
	Managing backpacks/inventory	discovering (problems) reading (text, numerals, symbols) comparing decision making
	Recovering health	discovering (problems) reading (text, numerals, symbols) recovering
Managing Economy	Buying and selling	discovering (merchants) reading (text, numerals, symbols) comparing decision making transacting
	Banking	reading (text, numerals, symbols) transacting
	Auctioning	discovering (auctioneer) reading (text, numerals, symbols) searching transacting (buying and bidding)
Exploring and Checking	Time, map, calendar, NPCs, character info, spellbook, icons, etc.	reading (text, numerals, symbols)
Others	Travelling using Hearthstone	reading (text, symbols) locating
	Finding a home	reading (text)
	Resurrecting(choosing to be healed by a spirit healer or retrieving corpse)	decision making reading (text, symbols) locating resurrecting

LIST OF REFERENCES

Alberti, J. (2008). The game of reading and writing: How video games reframe our understanding of literacy. *Computers and Composition, 25*, 258-269.

Ang, C. S., Zaphiris, P., & Wilson, S. (2005). *Social interaction in game communities and second language learning.* Paper presented at the 19th British HCI Group Annual Conference, Edinburg, UK.

Ariza, E. N. W., Morales-Jones, C. A., Yahya, N., & Zainuddin, H. (2006). *Why TESOL? Theories & Issues in teaching English to speakers of other languages in K-12 classrooms* (3rd ed.). Dubuque, IA: Kendall/Hunt Publishing Company.

Au, K. H. (2001). Culturally responsive instruction as a dimension of new literacies. *Reading Online, 5*(1).

Au, K. H. (2005). Constructivist approaches, phonics, and the literacy learning of students of diverse backgrounds. In Z. Fang (Ed.), *Literacy teaching and learning: Current issues and trends*. Columbus, OH: Merrill Prentice Hall.

Aufderheide, P. (1993). *Media literacy: A report of the national leadership conference on media literacy*. Queenstown, MD: Aspen Institute.

Baker, L. (1999). Opportunities at home and in the community that foster reading engagement. In J. T. Guthrie & D. Alvermann (Eds.), *Engagement in reading: Progress, practices, and policy implications* (pp. 105-133). New York: Teachers College Press.

Baker, L., Dreher, M. J., & Guthrie, J. T. (2000). *Engaging young readers: promoting achievement and motivation.* New York: Guilford Press.

Baker, L., Dreher, M. J., & Guthrie, J. T. (2000). Why teachers should promote reading engagement. In L. Baker, M. J. Dreher & J. T. Guthrie (Eds.), *Engaging young readers: Promoting achievement and motivation*. New York: The Guilford Press.

Baker, L. (2005). The role of parents in motivating struggling readers. In Z. Fang (Ed.), *Literacy teaching and learning: Current issues and trends*. Columbus, OH: Merrill Prentice Hall.

Bangert-Drowns, R. L., & Pyke, C. (2001). A taxonomy of student engagement with educational software: An exploration of literate thinking with electronic text. *Journal of Educational Computing Research, 24*(3), 213-234.

Barrett, H. C. (2007). Researching electronic portfolios and learner engagement: The REFLECT initiative. *International Reading Association, 50*(6), 436-449.

Barton, D., & Hamilton, M. (1998). *Local literacies: Reading and writing in one community*. London & New York.: Routledge.

Barton, D., & Hamilton, M. (2000). Literacy practices. In D. Barton, M. Hamilton & Roz Ivanič (Eds.), *Situated literacies: Reading and writing in context* (pp. 7-15). New York: McGraw-Hill.

Beavis, C. (2002). Reading, writing and role-playing computer games. In I. Snyder (Ed.), *Silicon literacies: Communication, innovation and education in the electronic age* (pp. 47-61). London: Routledge.

Beavis, C. (2002). *RTS and RPGs: New literacies and multiplayer computer games.* Paper presented at the Annual Meeting of the Australian Association for Research in Education, Queensland, Australia.

Berthoff, A. E. (1987). Foreword. In P. Freire & D. Macedo (Eds.), *Literacy: Reading the Word and the World* (pp. xi-xxiii). Massachusetts: Bergen & Garvey.

Braun, L. W. (2007). *Teens, technology and literacy; or, why bad grammar isn't always bad*. Westport, CT: Libraries Unlimited.

Bridgeland, J. M., DiIulio, J. J., Jr., & Morison, K. B. (2006). *The silent epidemic: Perspectives of high school dropouts*. Washington, DC: Civic Enterprises.

Brignall, T. W., & Valey, T. L. V. (2007). *An online community as a new tribalism: the World of Warcraft. The 40th Hawaii International Conference on System Sciences* (*HICSS'07*), Hawaii. Retrieved from http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=4076738&tag=1

Broberg, M. R. (2004). *The SIMs meet ESL: Incorporating authentic computer simulation games into the language classroom.* Iowa State University, Ames, Iowa.

Bruckman, A. (1998). Community support for constructionist learning. *Computer Supported Cooperative Work: The Journal of Collaborative Computing, 7*(1-2), 47-86.

Bryant, T. (2006). *Using World of Warcraft and other MMORPGs to foster a targeted, social and cooperative approach toward language learning*. Retrieved March 19, 2009, from http://www.academiccommons.org/commons/essay/bryant-MMORPGs-for-SLA

Buckingham, D. (2007). *Beyond technology: Children's learning in the age of digital culture*. Oxford, England: Blackwell Publishing.

Burst survey: Going online "essential" for teens. (2006, June 12). *MarketingVOX: The Voice of Online Marketing*.

Burn, A. (2006). Reworking the text: Online Fandom. In D. Carr, D. Buckingham, A. Burn & G. Schott (Eds.), *Computer games: Text, narrative and play*. Malden, MA: Polity Press.

Carr, D. (2006). Games and narrative. In D. Carr, D. Buckingham, A. Burn & G. Schott (Eds.), *Computer games: Text, narrative and play*. Malden, MA: Polity Press.

Carr, M. S. (2002). *Inquiring minds: Learning and literacy in early adolescence. Creating communities of learning & excellence.* Portland, OR: Northwest Regional Educational Laboratory.

Cicoure, A. V., & Mehan, H. (1984). Universal development, stratifying practices and status attainment. In R. V. Robinson (Ed.), *Research in social stratification and mobility* (pp. 3-27). Greenwich, CT: JAI Press.

Cluck, M., & Hess, D. (2003). *Improving students motivation through the use of the multiple intelligences.* Unpublished Thesis, Saint Xavier University & SkyLight, Chicago, Illinois.

Coady, M. (2009). "Solamente libros importantes": Literacy practices and ideologies of migrant farmworking families in north central Florida. In G.Li (Ed.), *Multicultural families, home literacies and mainstream schooling*. Charlotte, NC: Information Age Publishing.

Colby, R. S., & Colby, R. (2008). A pedagogy of play: Integrating computer games into the writing classroom. *Computers and Composition, 25*, 300-312.

Comber, B., & Cormack, P. (2005). Looking beyond "skills" and "processes": Literacy as social and cultural practices in classrooms. In Z. Fang (Ed.), *Literacy teaching and learning: Current issues and trends*. (pp. 3-10).Columbus, OH: Merrill Prentice Hall.

Compton-Lilly, C. (2007). What can video games teach us about teaching reading? *Reading Teacher, 60*(8), 718-727.

Cook-Gumperz, J. (2006). Literacy and schooling: an unchanging equation? In J. Cook-Gumperz (Ed.), *The social construction of literacy* (2nd ed., pp. 19-49). Cambridge, UK: Cambridge University Press.

Craig, K. (2006). *Voice chat comes to online games*. Retrieved May 12, 2009, from http://www.wired.com/gaming/gamingreviews/news/2006/08/71540

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Crotty, M. (2004). *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks: California: Sage.

Cruz, J. Q. (2007). Video games and the ESL classroom. *The Internet TESL Journal, XIII*(3).

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In California State Department of Education (Ed*.), Schooling and Language Minority Students: A Theoretical Framework* (pp. 3-49). Los Angeles: Dissemination and Assessment Center, California State University.

Dannecker, A., Richter, S., Lechner, U., Drebner, N., Fabisch, S., & Ilsemann, A. (2008). *Towards World of Warcraft as an experiment platform for teams.* Paper presented at the Americas Conference on Information Systems (AMCIS) 2008, Toronto, Canada

de Aguilera, M., & Mendiz, A. (2003). Video games and education: (education in the face of a "parallel school"). *ACM Computers in Entertainment, 1*.

deHaan, J. (2003). *Learning language through video games: A theoretical framework, an evaluation of game genres and questions for future research*. Retrieved April 16, 2008, from http://jobfunctions.bnet.com/whitepaper.aspx?docid=127390

deHaan, J. W. (2005). Acquisition of Japanese as a foreign language through a baseball video game. *Foreign Language Annals, 38*(2), 278-282.

Delwiche, A. (2006). Massively multiplayer online games (MMOs) in the new media classroom. *Journal of Educational Technology and Society, 93*(3).

Dewalt, K. M., & Dewalt, B. R. (2002). *Participant observation: A guide for filedworkers*. New York: Altamira Press.

Dewey, J. (1910). *How we think*. Boston: Heath.

Dewey, J. (1929). *The quest for certainty*. New York: Minton, Balch.

Dewey, J. (1938). *Logic: The theory of inquiry*. New York: Holt.

Dodge, T., Barab, S., Stuckey, B., Warren, S., Heiselt, C., & Stein, R. (2008). Children's sense of self: Learning and meaning in the digital age. *Journal of Interactive Learning Research, 19*(2), 225-249.

Dubbels, B. (2009). Video games, reading, and transmedial comprehension. In R. E. Ferdig (Ed.), *Handbook of research on effective electronic gaming in education*. Hershey, PA: Information Science Reference.

Ducheneaut, N., Yee, N., Nickell, E., & Moore, R. J. (2006). *"Alone together?" Exploring the social dynamics of massively multiplayer online games.* Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2006), Montreal; Canada (pp. 407-416) Retrieved from http://portal.acm.org/citation.cfm?id=1124772.1124834

Durkin, K. (2006). Game playing and adolescents' development. In P. Vorderer & J. Bryant (Eds.), *Playing Video Games: Motives, Responses, and Consequences* (pp. 415-428). Mahwah, NJ: Lawrence Erlbaum Associates.

Fairbanks, C. M. (2000). Fostering adolescents' literacy engagements:" Kid's business" and critical inquiry. *Reading research and instruction, 40*(1), 35-50.

Ferdig, R. E. (2007). Learning and teaching with electronic games. *JI. of Educational Multimedia and Hypermedia, 16*(3), 217-223.

Funk, J. B., Hagen, J. D., & Schimming, J. L. (1999). Children and electronic games: A comparison of parent and child perceptions of children's habits and preferences in a United States sample. *Psychological Reports*, *85*, 883-888.

Gallego, M. A., & Hollingsworth, S. (Eds.). (2000). *What counts as literacy: Challenging the school standard*. NY: Teachers College University.

Gambrell, L. B. (2001). What we know about motivation to read. In R. F. Flippo (Ed.), *Reading researchers in search of common ground*. Newark, DE: International Reading Association.

Garris, R., Ahlers, R., & Driskell, J. E. (2002). Games, motivation, and learning: A research and practice model. *Simulation & Gaming, 33*(4), 441-467.

Gee, J. P. (1991). *Social linguistics: Ideology in discourses*. London: Falmer Press.

Gee, J. (1992). *The social mind: Language, ideology and social practice*. New York: Bergin and Garvey.

Gee, J. P. (1996). *Social linguistics and literacies: Ideology in discourses* (2nd ed.). London: Falmer Press.

Gee, J. P. (1998). What is literacy? In R. Spack & V. Zamel (Eds.), *Negotiating academic literacies: Teaching and learning across languages and cultures* (pp. 51-60). Mahwah, NJ: Lawrence Erlbaum Associates.

Gee, J. P. (2000). Teenagers in new times: A new literacy studies perspective. *Journal of Adolescent & Adult literacy, 43*(5), 412-420.

Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave Macmillan.

Gee, J. P. (2003). *Good video games and good learning*. Retrieved April 9, 2007, from http://www.academiccolab.org/resources/documents/Good_Learning.pdf

Gee, J. P. (2004). *Situated Language and Learning: A Critique of Traditional Schooling*. New York: Routledge.

Gee, J. P. (2007). *Good video games + Good learning*. New York: Peter Lang.

Gee, J. P. (2007). Foreword. In L. S. Cynthia & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century*. New York: New York.

Gibson, D., Aldrich, C., & Pensky, M. (2006). *Games and simulations in online learning: Research and development frameworks*. Hershey, PA: Idea Group Inc (IGI).

Giroux, H. A. (1987). Literacy and the pedagogy of political empowerment. In P. Freire & D. Macedo (Eds.), *Literacy: Reading the Word the World* (pp. 1-27). Massachusetts: Bergen & Garvey.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.

Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. White Plains, NY: Longman.

Glesne, C. (1999). *Becoming qualitative researchers: An introduction*. New York: Longman.

Greenfield, P. M., & Subrahmanyam, K. (2003). Online discourse in a teen chatroom: New codes and new modes of coherence in a visual medium. *Journal of Applied Developmental Psychology, 24*(6), 713-738.

Griffiths, M. D., Davies, M. N. O., & Chappell, D. (2004). Online computer gaming: a comparison of adolescent and adult gamers. *Journal of Adolescence, 27*(1), 87-96.

Guthrie, J. T. (1996). Educational contexts for engagement in literacy. *Reading Teacher, 49*(6), 432-445.

Guthrie, J. T., McGough, K., Bennett, L., & Rice, M. E. (1996). Concept-oriented reading instruction: An integrated curriculum to develop motivations and strategies for reading. In L. Baker, P. Afflerbach & D. Reinking (Eds.), *Developing engaged readers in school and home communities* (pp. 165-190). Hillsdale, NJ: Erlbaum.

Guthrie, J. T., Meter, P. V., McCann, A., Anderson, E., & Alao, S. (1996). Does concept-oriented reading instruction increase motivation, strategies, and conceptual learning? *Reading Research Report, 66*.

Guthrie, J. T., Meter, P. V., McCann, A. D., Wigfield, A., Bennett, L., Poundstone, C. C., et al. (1996). Growth of literacy engagement: Changes in motivations and strategies during concept-oriented reading instruction. *Reading Research Quarterly, 31*(3), 306-332.

Guthrie, J. T. (1997). Engagement in reading for young adolescents. *Journal of Adolescent & Adult Literacy, 40*(6), 438-446.

Guthrie, J. T., & Alao, S. (1997). Designing contexts to increase motivations for reading. *Educational Psychologist, 32*, 95-105.

Guthrie, J. T., & McCann, A. D. (1997). Characteristics of classrooms that promote motivations and strategies for learning. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction* (pp. 128-148). Neward, DE: International Reading Association.

Guthrie, J. T., & Wigfield, A. (Eds.). (1997). *Reading engagement: Motivating readers through integrated instruction*. Newwark, DE: Reading Association.

Guthrie, J. T., & Anderson, E. (1999). Engagement in reading: Process of motivated, strategic, knowledgeable, social readers. In J. T. Guthrie & D. E. Alvermann (Eds.), *Engaged reading: Processes, practices, and policy implications* (pp. 17-45). New York: Teachers College Press.

Guthrie, J. T. (2001). Contexts for engagement and motivation in reading. *Reading Online, 4*(8).

Guthrie, J. T., & Davis, M. H. (2003). Motivating struggling readers in middle school through an engagement model of classroom practice. *Reading & Writing Quarterly, 19*, 59-85.

Guthrie, J. T. (2004). Teaching for literacy engagement. *Journal of Literacy Research, 36*, 1-30.

Guzzetti, B. J. (2006). Cybergirls: negotiating social identities on cybersites. *E-Learning, 3*(2), 158-169.

Hagood, M. C., Stevens, L. P., & Reinking, D. (2002). What do they have to teach us? Talkin" cross generations! In D. E. Alvermann (Ed.), *Adolescents and literacies in a digital world*. New York: Peter Lang Publishing, Inc.

Heath, S. (1982). Protean shapes in literacy events: Ever-shifting oral and literate traditions. In D. Tannen (Ed.), *Spoken and written language: Exploring orality and literacy* (pp. 91-117). Norwood, NJ: Ablex.

Heath, S. B. (1983). *Ways with words*. Cambridge: Cambridge University Press.

Heller, S., & Pomeroy, K. (1997). *Design literacy: Understanding graphic design*. New York: Allworth Press.

Herselman, M. E., & Technikon, P. E. (2000). University students benefitting from the medium of computer games: A case study. *South African Journal of Higher Education, 14*(3), 139-150.

Hobbs, R. (1996). *Expanding the concept of literacy*. Retrieved March 5, 2009, from http://www.mediaeducationlab.com/pdf/Expanding%20the%20Concept%20of%20Literacy,%20Hobbs.pdf

Horsburgh, D. (2003). Evaluation of qualitative research. *Journal of Clinical Nursing, 12*(2), 307-312.

Hull, G., & Schultz, K. (2001). Literacy and learning out of school: A review of theory and research. *Review of Educational Research, 71*(4), 575-611.

Hull, G. Y., & Schultz, K. (Eds.). (2002). *School's out!: Bridging out-of-school literacies with classroom practice*. New York: Teachers College Press.

Ito, M., Horst, H., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., et al. (2008). *Living and learning with new media: Summary of findings from the digital youth project*. Retrieved April 2009, 2009, from http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-WhitePaper.pdf

Ivey, G., & Broaddus, K. (2001). "Just plain reading": A survey of what makes students want to read in middle school classrooms. *Reading Research Quarterly, 36*(4), 350-377.

Järvelä , S., Veermans, M., & Leinonen, P. (2008). Investigating student engagement in computer-supported inquiry: a process-oriented analysis. *Journal Social Psychology of Education, 11*(3), 299-322.

Jenkins, H. (2000). *Art form for the digital age: Video games shape our culture. It's time we took them seriously*. Retrieved October 8th, 2008, from http://www.technologyreview.com/computing/12189/?a=f

Jenkins, H. (2005). Getting into the game. *Educational Leadership, 62*(7), 48-51.

Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York: New York University Press.

Jenkins, H., Purushotma, K., Weigel, M., & Robison, A. J. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century*. Retrieved October 20, 2008, from http://digitallearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF

Jewitt, C. (2008). Multimodality and Literacy in School Classrooms. *Review of Research in Education, 32*(1), 241-267.

Jolly, K. (2008). Video games to reading: Reaching out to reluctant readers. *English Journal, 97*(4), 81-86.

Journet, D. (2007). Narrative, action, and learning: The stories of Myst. In L. S. Cynthia & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century*. New York: Palgrave Macmillan.

Juul, J. (2005). *Half-real: Video games between real rules and fictional worlds*. Cambridge: The MIT Press.

Krashen, S. (1981). *Second Language Acquisition and Second Language Learning*. Oxford, UK: Pergamon Press

Krashen, S. (1998). *TPR: Still a very good idea*. Retrieved December 8, 2010, from http://www.languageimpact.com/articles/other/krashentpr.htm

Kress, G., & van Leeuwen, T. (1996). *Reading images: The grammar of visual design*. London: Routledge.

Kress, G. (2003). *Literacy in the New Media Age*. New York: Routledge.

Kress, G., & Jewitt, C. (2003). Introduction. In C. Jewitt & G. Kress (Eds.), *Multimodal literacy*. New York: Peter Lang.

Krzywinska, T. (2008). World creation and lore: World of Warcraft as rich text. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play and identity*. Cambridge, MA: The MIT Press.

Lankshear, C., Peters, M., & Knobel, M. (2002). Information, knowledge and learning: Some issues facing epistemology and education in a digital age. In M. Lea & K. Nicolls (Eds.), *Distributed learning* (pp. 16-37). London: RoutledgeFalmer.

Lankshear, C., & Knobel, M. (2006). *New literacies: Everyday practices and classroom learning* (2nd ed.). New York: Open University Press.

Leu, D. J., Zawilinski, L., Castek, J., Banerjee, M., Housand, B., Liu, Y., & O'Neil, M. (2007). What is new about the new literacies of online reading comprehension? In L. Rush, J. Eakle & A. Berger (Eds.), *Secondary school literacy: What research reveals for classroom practices* (pp. 37-68). Urbana, IL: National Council of Teachers of English.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic enquiry*. London: Sage.

Lindley, C. A. (2002). *The gameplay gestalt, narrative, and interactive storytelling.* Paper presented at the Computer Games and Digital Cultures Conference, Tampere, Finland.

Liu, M., Moore, Z., Graham, L., & Lee, S. (2003). A look at the research on computer-based technology use in second language learning: A review of the literature from 1990-2000. *Journal of Research on Technology in Education, 34*(3), 250-273.

Ljung, M. (1986). *Om svordomar*. Stockholm: Akademilitteratur.

Lobel, J. (2006). *Multiplayer computer gaming simulations facilitating cooperative learning*. Retrieved September, 2007, from https://www.cs.tcd.ie/~lobelj/portfolio/literature_review/literature_review_jonathan_lobel.pdf

Major new study shatters stereotypes about teens and video games. (2008, September 16). Retrieved October 26, 2008, from http://www.macfound.org/site/apps/nlnet/content3.aspx?c=lkLXJ8MQKrH&b=1139551&content_id={CF9B933A-8261-4FE5-B9AD-AD751CDEEFC6}&notoc=1

Margolis, J. L., Nussbaum, M., Rodriguez, P., & Rosas, R. (2006). Methodology for evaluating a novel education technology: a case study of handheld video games in Chile. *Computers & Education, 46*, 174-191.

McMahan, A. (2003). Immersion, engagement, and presence: A method for analyzing 3-D video games. In M. J. P. Wolf & B. Perron (Eds.), (pp. 67-86). New York: Routledge.

Merriam, S. B. (1998). *Qualitative research and case studies applications in education*. San Francisco: Jossey-Bass Publications.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA.: Sage.

Millians, D. (1999). Simulations and young people: Developmental issues and game development. *Simulation & Gaming, 30*(2), 199-226.

Moberly, K. (2008). Composition, computer games, and the absence of writing. *Computers and composition, 25*(3), 284-299.

Moll, L., Amanti, C., Neff, D., & González, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice, 31*, 132-141.

Moreno, R., & Mayer, R. (2007). Interactive multimodal learning environments. *Educational Psychology Review, 19*(3), 309-326.

Morton, H., & Jack, M. A. (2005). Scenario-based spoken interaction with virtual agents. *Computer Assisted Language Learning, 18*(3), 171-191.

Mosenthal, P. B. (1999). Understanding engagement: Historical and political contexts. In: J. T. Guthrie & D. E. Alvermann (Eds.), *Engaged reading: Processes, practices, and policy implications* (pp. 1-16). New York: Teachers College Press.

National Center for Education Statistics. (2003). *The Nation's report card*. Retrieved September 7, 2004, from http://nces.ed.gov/nationsreportcard/

O'Brien, D. G. (1998). Multiple literacies in a high-school program for "at-risk" adolescents. In D. E. Alverman, K. A. Hinchman, D. W. Moore, S. F. Phelps & D. R. Waff (Eds.), *Reconceptualizing the literacies in adolescents' lives* (pp. 27-49). Mahwah, NJ: Erlbaum.

O'Brien, D. (2001). "At-risk" adolescents: Redefining competence through the multiliteracies of intermediality, visual Arts, and representation. *Reading Online, 4*(11).

Obidah, J. E. (1998). Black-Mystory: Literate currency in everyday schooling. In D. E. Alvermann, K. A. Hinchman, D. W. Moore, S. F. Phelps & D. R. Waff (Eds.), *Reconceptualizing the literacies in adolescents' lives* (pp. 51-71). Mahwah, NJ: Erlbaum.

Oldenburg, R. (1991). *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community*. New York: Paragon House.

Pahl, K. (1999). *Transformations: Children's meaning making in nursery education*. Stoke-on-Trent, UK: Trentham.

Pandey, I. P., Pandey, L., & Shreshtha, A. (2007). Transcultural literacies of gaming. In C. L. Selfe & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century*. New York: Plagrave Macmillan.

Pena, J., & Hancock, J.T. (2006). An analysis of instrumental and socio-emotional content in online multi-player videogames. *Communication Research, 33*(1), 92-109.

Phelps, S. (2005). *Ten years of research on adolescent Literacy, 1994-2004: A review*. Retrieved May 20th, 2009, from http://www.eric.ed.gov/PDFS/ED489531.pdf

Postman, N. (1979). The first curriculum: Comparing school and television. *Phi Delta Kappan, 61*(3), 163-168.

Postman, N. (1993). *Technology: The surrender of culture to technology*. New York: Random House.

Pourbaix, R. d. (2000). Emergent literacy practices in an electronic community. In D. Barton, M. Hamilton & R. Ivanič (Eds.), *Situated literacies: Reading and writing in context* (pp. 125-148). New York: Routledge.

Prensky, M. (2001). *Digital game-based learning*. New York: McGraw-Hill.

Prensky, M. (2005). Engage me or enrage me: What today's learners demand. *Educause Review, 40*(5).

Purushotma, R. (2005). Commentary: You're not studying, you're just... *Language Learning & Technology, 9*(1), 80-96.

Raney, A. A., Smith, J. K., & Baker, K. (2006). Adolescents and the Appeal of Video Games. In P. Vorderer & J. Bryant (Eds.), *Playing Video Games: Motives, Responses, and Consequences* (pp. 165-179). Mahwah, NJ: Lawrence Erlbaum Associates.

Resnianskaia, L. (2000). *Whose literacies are disseminated by the educational technology? (The "images of literacy" on CD-ROMs and the Internet).* Paper presented at the Australian Association for Research in Education Conference, The University of Sydney.

Rice, J. (2007). Assessing higher order thinking in video games. *Journal of Technology and Teacher Education, 15*(1), 87-100.

Robertson, J., & Good, J. (2005). Children's narrative development through computer game authoring. *TechTrends, 49*(5), 43-59.

Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V., Correa, M., Flores, P., et al. (2003). Beyond Nintendo: design and assessment of educational video games for first and second grade students. *Computers and Education, 40*(1), 71-94.

Ruddell, M. R. (2000). *Dot.com lessons worth learning: Student engagement, literacy, and project-based learning.* Retrieved October 10th, 2008, from http://www.eric.ed.gov/PDFS/ED444119.pdf

Sanford, K., & Madill, L. (2007). Understanding the power of new literacies through video game play and design. *Canadian Journal of Education, 30*(2), 432-455.

Sarsar, N. M. (2008). *What children can learn from MMORPGs*. Retrieved October 20, 2008, from http://www.eric.ed.gov/PDFS/ED501741.pdf

Schallert, D. L., & Reed, J. H. (1997). The pull of the text and the process of involvement in reading. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction*. Newark, DE: International Reading Association.

Schwarz, G. (2003). Renewing the humanities through media literacy. *Journal of Curriculum and Supervision, 19*(1), 44-53.

Seidman, I. (1991). Technique isn't everything, but it is a lot. In *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (pp. 56-71). New York: Teachers College Press.

Selfe, C. L., Mareck, A. F., & Gardiner, J. (2007). Computer gaming as literacy. In C. L. Selfe & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century*. New York: Palgrave Macmillan.

Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2004). *Video games and the future of learning*. Madison, WI: University of Wisconsin-Madison and Academic Advanced Distributed Learning Co-Laboratory.

Shaffer, D. W. (2006). *How computer games help children learn*. New York: Palgrave Macmillan.

Sherry, J. L., Lucas, K., Greenberg, B. S., & Lachlan, K. (2006). Video game uses and gratifications as predicators of use and game preference. In P. Vorderer & J. Bryant (Eds.), *Playing Video Games: Motives, Responses, and Consequences* (pp. 213-224). Mahwah, NJ: Lawrence Erlbaum Associates.

Smith, E., & Deitsch, E. (2007). Lost(and found) in translation: Game localization, cultural models, and critical literacy. In L. S. Cynthia & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century*. New York: Palgrave Macmillan.

Smith, L. M. (1978). An evolving logic or participant observation, educational ethnography and other case studies. In L. Shulman (Ed.), *Review of research in education*. Itasca, IL: Peacock.

Squire, K., & Barab, S. (2004). *Replaying History: Engaging urban underserved students in learning world history through computer simulation games.* Paper presented at the 2004 International Conference of the Learning Science., Mahwah, NJ.

Squire, K. (2005). *Changing the game: What happens when video games enter the classroom*. Retrieved April 27, 2009, from http://www.academiccolab.org/resources/documents/Changing%20The%20Game-final_2.pdf

Squire, K. (2006). From content to context: videogames as designed experience. *Educational Researcher, 35*(8), 19-29.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stenström, A.-B., Andersen, G., & Hasund, I. K. (2002). *Trends in teenage talk: Corpus compilation, analysis and findings*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Street, B. (1984). *Literacy in theory and practice*. Cambridge: Cambridge University Press.

Street, B. V. (1988). Literacy practices and literacy myths. In R. Saljo (Ed.), *The written world: Studies in literate thought and action* (pp. 59-72). New York: Springer-Verlag.

Street, B. V. (1993). The new literacy studies: Guest editorial. *Journal of Research in Reading, 16*(2), 81-97.

Street, B. (2003). What's "new" in New Literacy Studies? Critical approaches to literacy in theory and practice. *Current issues in comparative education, 5*(2), 77-91.

Street, B. V. (Ed.). (2005). *Literacies across educational contexts: Mediating learning and teaching*. Philadelphia: Caslon Publishing.

Street, B. (2005). New literacies in theory and practice: What are the implications for language in education. In Z. Fang (Ed.), *Literacy teaching and learning: Current issues and trends*. Columbus, OH: Merrill Prentice Hall.

The New London Group (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1).

Thomas, S., & Oldfather, P. (1996). Enhancing student and teacher engagement in literacy learning: A shared inquiry approach. *Reading Teacher, 49*(3), 192-205.

Tomlinson, C. A., & Doubet, K. (2005). Reach them to teach them. *Educational Leadership, 62*(7), 8-13.

Turner, J., & Paris, S. G. (2005). How literacy tasks influence children's motivation for literacy. In Z. Fang (Ed.), *Literacy teaching and learning: Current issues and trends*. Columbus, OH: Merrill Prentice Hall.

Venezky, R. L. (1990). Gathering up, looking ahead. In R. L. Venezky, D. A. Wagner & B. S. Ciliberti (Eds.), *Toward defining literacy* (pp. 70-74). Pennsylvania: International Reading Association.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner & E. Souberman, Trans.). Cambridge, MA: Harvard University Press.

Wells, L., & Blendinger, J. (1998). *How middle school students spend their time outside of school: A longitudinal investigation.* Paper presented at the Mid-South Educational Research Association Conference, New Orleans, LA.

Wigfield, A. (1997). Children's motivations for reading and reading engagement. In J. T. Guthrie & A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction*. Newark, DE: International Reading Association.

Wilhelm, J. D., & Smith, M. W. (2001). Literacy in the lives of young men: Findings from an American study. *English in Australia, 132*, 17-28.

Williams, B. T. (2004). Are we having fun yet? Students, social class, and the pleasure of literacy. *Journal of Adolescents & Adult Literacy, 48*(4), 338-342.

Williams, B. T. (2005). Leading double lives: Literacy and technology in and out of school. *Journal of Adolescents & Adult Literacy, 48*(8), 702-706.

Williams, D. (2003). The video game lightning rod. *Information, Communication & Society, 6*(4), 523-550.

Williams, D. (2007). Afterword: The return of the player. In C. L. Selfe & G. E. Hawisher (Eds.), *Gaming lives in the twenty-first century* (pp. 253-259). New York: Palgrave Macmillan.

Williams, M. (2008). Avatar watching: participant observation in graphical online environments. *Qualitative Research, 7*(1), 5-24.

Windschitl, M. (1999). The challenges of sustaining a constructivist classroom culture. *Phi Delta Kappan, 80*(10), 751-755.

Worthy, J., & Prater, K. (2002). “I thought about it all night”: Readers theatre for reading fluency and motivation. *Reading Teacher, 56*(3), 294-297.

Yee, N. (2006). *The demographics, motivations and derived experiences of users of massively-multiuser online graphical environments*. Retrieved March 18, 2009, from http://www.mitpressjournals.org/doi/abs/10.1162/pres.15.3.309

Yi, Y. (2005). *Immigrant students' out-of-school literacy practices: A qualitative study of Korean students' experiences.* The Ohio State University, Columbus, Ohio.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA.: Sage.

Yip, F. W. M., & Kwan, A. C. M. (2006). Online vocabulary games as a tool for teaching and learning English vocabulary. *Educational Media International, Vol. 43*(3), 232-249.

Zhang, Y. (2001). *Re-Conceptualizing Engagement in Reading through Miscue Research.* Paper presented at the International Symposium on Language Teaching, Beijing, China.

Zhao, Y., & Lai, C. (2009). MMORPGs and foreign language education. In R. E. Ferdig (Ed.), *Handbook of research on effective electronic gaming in education*. Hershey, PA: Information Science Reference.

BIOGRAPHICAL SKETCH

Born and raised in China, Zhuo Li earned her Bachelor of Arts in English language at Sichuan International Studies University in Chongqing, China, in July 2000. She came to the U.S. in August 2002 and obtained her Master of Education in secondary English education at Georgia Southern University in May 2004. Before starting her doctoral studies at the University of Florida in Fall 2005, Zhuo taught English as a foreign language in Shenzhen Polytechnic and several other training centers in Shenzhen, China. In the meantime, she was a consultant and supervisor in Shenzhen Cambridge Bilingual Experimental Kindergarten.

During her PhD studies, Zhuo augmented her doctoral degree with a wide array of related professional development activities. She taught a blended course titled “English for Speakers as Other Languages (ESOL) Foundations: Language and Culture in Elementary Classrooms” to preservice teachers for more than three years. Zhuo also taught an online graduate course titled “ESOL Strategies for the Content Area Teacher” in Summer 2011. Additionally, she was actively involved in teaching Chinese as a foreign/second language across various levels. She worked as a teaching assistant in the Chinese Studies Program at the University of Florida and taught Chinese at the K-12 level in Hua-Gen Chinese School in Gainesville.

Zhuo’s research interests include cross-cultural communication, multiliterate approaches to language learning, and applying educational technology to second language acquisition and foreign language learning. She has made 14 research presentations at international, national, and state educational conferences. In addition, with other two colleagues, Zhuo has co-authored a chapter about second language

learning through video games in *Handbook of research on e-learning methodologies for language acquisition* published by IGI Global.