GAMING ECOLOGIES AND PEDAGOGIES SERIES

Bridging Literacies with Videogames

Hannah R. Gerber and
Sandra Schamroth Abrams (Eds.)

Foreword by Allen Web and Robert Rozema

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Bridging Literacies with Videogames

GAMING ECOLOGIES AND PEDAGOGIES SERIES

Volume 1

Scope:

Research suggests that a majority of today's students play videogames on a regular basis – five or more times per week. Research also suggests that more attention is needed to understand and theorize the connections among multiple out-of-school literacy practices and academic spaces. There are multiple ways that videogames shape and inform people's lifeworlds, and this series aims to provide an understanding of gaming ecologies as a means to conceptualize and theorize gaming, learning, and virtual environments.

We invite proposals that draw upon a broad range of methodological approaches and theoretical perspectives in order to move the field forward and understand new directions that videogames and MUVEs have in learning experiences. Books in this series may be conceptual, theoretical, and empirical and can be edited compilations, anthologies, single-authored and co-authored texts. We invite interested authors to submit proposals relating to videogames and learning to

Hannah R. Gerber, hrg004@shsu.edu
or
Sandra Schamroth Abrams, abramss@stjohns.edu

Bridging Literacies with Videogames

Edited by
Hannah R. Gerber
Sam Houston State University, Texas, USA
and
Sandra Schamroth Abrams
St. John's University, New York, USA

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To my nephews, Andy, Caleb, and Gabe, who inhabit a gaming world that spans many literacies.

-Hannah

To my husband and our children who continuously remind me of the lessons embedded in play.

-Sandra

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ALLEN WEBB & ROBERT ROZEMA

FOREWORD

In *What Video Games Have to Teach Us About Learning and Literacy* (2003), James Gee extracted the strategies and principles that keep videogame players motivated to master increasingly difficult skills and knowledge, strategies and principles that he believed were transferable to many different learning situations. Perhaps what was most ground-breaking about Gee's work was not the learning strategies he found–many were familiar–but that an academic scholar, a leading expert in linguistics and literacy, approached videogames with a high level of respect for their complexity, their ability to engage participants, and their educational methodology. Gee investigated videogames as new semiotic domains–new contexts for the construction of meaning and the practice of literacy.

Bridging Literacies in Videogames draws on Gee's work, but goes to a different level. The editors and authors here are thinking deeply about the intersection between videogames and learning. But they are also interested in what happens when students develop virtual worlds, design video games, engage in online role play in response to real world issues, and learn language, especially English, in games that transcend culture, class, and nationality.

Even as cultural critics blame videogames for a host of social ills—violence, illiteracy, and antisocial behavior, to name a few—the contributors to this volume are building bridges between the world of videogames and the world of school. Had they been teaching in the late 1960s, the writers included here would likely be listening to the Beatles along with their students, looking for instances of figurative language in "Happiness is a Warm Gun," even while all around, pastors and politicians decried rock and roll.

But they teach today, a time when videogames may be more popular than rock and roll. Today, nearly all adolescents play videogames. They play them on smartphones, on media tablets, on laptop and desktop computers, and on standalone gaming consoles such as the Xbox or PlayStation. They play them alone, with three or four friends, or with thousands of others. They may be building intricate worlds in *Minecraft*, stealing and joyriding cars in *Grand Theft Auto V*, completing dangerous missions in *Call of Duty*, or simply wandering the vast realm of *Skyrim*.

And gamers themselves no longer fit a stereotype: many are indeed teenage boys, but videogames are also increasingly popular with girls, with older people, and with young children. Rob's son Aidan began playing the Nintendo Wii at age five, delighting in the whimsical worlds offered by *Lego* Wii games. In *Lego Star Wars*, Aidan found an immersive galaxy, stocked with familiar characters and settings but

open to nearly endless variation. Aidan discovered that each of the 42 levels could be played in story mode, in which players follow plots drawn from the Star Wars movies–Luke must rescue Princess Leia from the Death Star. But the levels can also be played in free play mode, which allows a player to use assume the role of any character or better still, to create an original character. What might happen if Chewbacca went to Dagoba?, the game invited Aidan to ask. Aidan borrowed concepts and vocabulary from the game for his other forms of narrative play. Playing with Star Wars action figures, he would pretend to complete levels and ask me to "click on" a character I wanted to use.

In August of 2012, Allen visited his daughter Jessica, who was teaching English on a Fulbright to future English teachers in Brazil in a small, rural Amazonian town many hours by bus from the nearest city. Her best students, those who had the best English, especially the best accents and phonetics played videogames. None of their parents spoke English. No one in their families had traveled. In a region with spotty Internet connection, poor kids (mainly but not only boys) would play videogames in shabby Internet cafes. There, through games, they were traveling to other parts of the world and also interacting, carrying on online discussion in English with gamers from all over the earth. Soon many discovered that they were doing better in their English classes and, eventually, those Jessica was working with decided to become English teachers.

As the contributors to this volume realize, videogames are here to stay–in suburban homes, Brazilian cafes, and everywhere else. The titles will change, but gaming itself will remain, its future assured by the proliferation of affordable gaming platforms, by the exponential increase in memory processing power that drives game development, by the massive corporate capital invested in the videogames, which now outsell movies, and most of all, by the great appetite for new and better games.

Clearly, videogames have the potential to engage students in school. Yet a simple desire to engage students is not the reason why Gerber, Abrams and their contributors draw on videogames as teaching tools. Instead, as scholars of education and experts in learning, they are interested in how literacy and culture evolve and how students become critical thinkers, active learners, and producers of meaning in the worlds in which they live. They are intrigued by social interaction, media literacy, and distributed decision-making. The authors of this volume are curious about how changes in technology and literacy practices of young people at home and online will change their learning in school.

Not everyone is willing to build these bridges. Corporate educational reform is calling for systematic curriculum, students and teachers held to common standards, and standardized testing of individuals working alone. School literacy is divided into isolated and thoroughly sequenced traditional skills and understood as close reading of texts carefully graded by supposed levels of complexity.

All the while what is really going on is that globalization and new technologies are changing the nature of work, play, and personal lives. Work place and home literacies increasingly involve collaborative consumption and production of digital,

visual and multimodal texts. People change jobs, even careers, multiple times and new careers are created at an ever-faster pace. In the post-industrial economy, work takes place in cooperative affinity spaces, through shared knowledge, and is carried out with new and rapidly evolving virtual tools.

Clearly, *Bridging Literacies* is about crossing outmoded cultural, linguistic, and national barriers and overcoming old-fashioned, school-based, and reductive conceptions of literacy. Instead, the authors here are interested in developing imagination, adaptability, social connectivity, and new understandings of text, composition, and knowledge. In short, this book is about what is really going on and about using education to prepare young people for the world today.

PREFACE

This book came about over multiple conversations that we have had on the topic of bridging literacies through videogaming, and, thus, fostering learning environments steeped in literate experiences for all learners. During formal and informal meetings at conferences, such as those sponsored by the National Council of Teachers of English, the Literacy Research Association, and the American Educational Research Association, we conversed about the need for comprehensive texts that provide a wide-angle view of diverse empirical studies that address ways of bridging literacies with videogames.

This edited volume draws together cross-cultural and global voices and experiences, shedding light on the well-known issue of gaming and learning. We say 'issue' because videogaming is complicated; most games stem from complex design systems, and they encourage 'good' learning (Gee, 2007); but they are deeply rooted in an entertainment industry that has had a strong, capitalistic hold on games since the 1970s (Abrams, 2009, in press). Thus, it comes as no surprise that, despite recent initiatives to include videogames and game design in education (Gerber, Abrams, Onwuegbuzie, Benge, 2014; Salen, Torres, Wolozin, Rufo-Tepper & Shapiro, 2011; Squire, 2012; Webb, 2012), the concept of videogaming and classroom learning still receives resistance.

One way to begin is to acknowledge videogaming as a legitimate literacy practice, and, as noted in David Thomas, Kyle Orland, and Scott Steinberg's *The Videogame Style Guide and Reference Manual* (2007). This includes a consistent language, beginning with the spelling of 'videogame' as one word. As Thomas, Orland, and Steinberg contend, their use of videogame as one word stemmed from the desire for and training in "clear, concise communication" (p. 8). We support the need to develop a common and consistent language as the field of videogames and learning moves forward. As such, we have asked our contributors to adhere to the standards set forth by *The Videogame Style Guide and Reference Manual*. This edited volume, therefore, presents a variety of international studies that use a similar language to clearly communicate *Bridging Literacies with Videogames*.

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We would like to thank our respective universities, Sam Houston State University and St. John's University, for providing us with the opportunity to focus on areas of research that are important to explore in bridging literacies for learning. Gaming is an important literacy practice that many people engage in on a regular basis, and we are grateful to our universities and our colleagues for allowing us to pursue our passion, as well as indulge us in conversations about this multifaceted topic relevant to scholars, teachers, and policy-makers alike.

We want to thank our wonderfully dedicated acquisitions editor, Michel Lokhorst at Sense Publishers, for his excitement about our text, and the subsequent conversations we have had with him that allowed us to flesh out our ideas. His prompt responses to our inquiries about the text allowed us to move forward with our ideas. We also want to thank Jolanda Karada, our thorough production coordinator at Sense Publishers, for guiding us through the production process and answering our questions throughout the process.

Additionally, we want to thank all of our contributors, for without them the book would not be possible. Their insightful chapters truly add a layer to rethinking the multiple ways that literacies can be bridged through and with gaming in order to enrich and engage learning experiences for all. It was a pleasure working with each of them. We also want to thank our external reviewers who took time to thoroughly review each of the chapter submissions and provide valuable feedback and ideas for each of our contributors to consider during their revision process. Thank you to James Bucky Carter, Xiaojun Chen, Thor Gibbins, Kellie Gobert, Erica Holan, Aliya Holmes, Victor Malo-Juvera, Lisa Kwoka, Kimberly LaPrairie, Tom Liam Lynch, Shannon Mortimore, Dodie Neimeyer, Justin D. Olmanson, Debra P. Price, Robert Rozema, Carolyn Stufft, and Michael K. Thomas.

We also want to thank Allen Webb and Robert Rozema for their thought-provoking and insightful foreword that encourages us to reconceptualize learning in light of contemporary modes and practices. We hope their contribution, and that of the authors of this volume, will inspire new perspectives and discussions about ongoing shifts in literacy and learning.

ABOUT THE CONTRIBUTORS

EDITORS

Hannah R. Gerber, Ph. D. is an Assistant Professor of Digital Literacies and Epistemologies in the Department of Language, Literacy, and Special Populations in the College of Education at Sam Houston State University.

Her research focuses on the ecologies and pedagogies afforded through videogaming practices among adolescents, considering both the affordances and constraints that the medium of the videogame, and the related practices, have on students' independent and often unsancationed literacy practices. She has conducted various qualitative and mixed research studies to understand these spaces, and the phenomena these spaces afford, including qualitative case studies of diverse adolescent male gamers, an ethnographic study of an urban public library videogaming program, case studies of in-service teachers' conceptualization and understanding of the videogame as both a pedagogical tool and pervasive and ubiquitous technology, and has studied the implementation of the impact that a commercial-off-the-shelf videogame curriculum had on at-risk students' literacy practices. She considers herself a youth advocate, broadly interested in building and creating a world where young people feel safe and have the ability and freedom to explore their interests with guidance from their peers and caring adults. She is interested in global youth and engages in methods to examine the impact that technologies and new literacies have in pushing us toward change to create a world where young people can freely explore their interests for all youth: from the Arab Spring to her backyard.

Her recent research has appeared in *Educational Media International, English Journal, The ALAN Review,* and *SIGNAL Journal.* She currently serves as a columnist for *VOYA Magazine*, focusing on integrating videogaming into public and school library programs. Her forthcoming books include, *Game Night at the Library: It's More than Just Play* (VOYA) with Sandra Schamroth Abrams. Along with Sandra Scharmroth Abrams, Jen Scott Curwood, and Alecia Magnifico, Gerber is co-authoring the forthcoming book, *Qualitative Methods for Researching Online Learning* (SAGE).

Sandra Schamroth Abrams, Ph.D., is an Assistant Professor of Adolescent Education in the Department of Curriculum and Instruction in the School of Education at St. John's University in New York.

Her research of videogaming focuses on adolescents' identities and practices developed, maintained, and modified in online and offline social and academic settings. Through the close examination of power structures, gaming principles, and spatial design, her work provides insight into agentive learning located in collaboration, variation, iteration, and ideation. More specifically, her longitudinal ethnographic study of videogaming in public libraries has revealed a *layering of literacies* deeply

rooted in the seamless movement among modalities and resources across online and offline spaces. These discoveries of students' evolving knowledge landscapes have informed additional qualitative and mixed methods research of adaptive resources, adolescent learning, and technological integration. Overall, Abrams's work suggests that the nuances of digital worlds and practices are dynamic and problematic, disrupting convention and providing new avenues for pedagogical discovery.

Her recent work has appeared in *Educational Media International, Languages and Linguistics, Teachers College Record Yearbook*, and *English Journal.* Her forthcoming books include *Integrating Virtual and Traditional Learning in 6-12 Classrooms: A Layered Literacies Approach to Multimodal Meaning Making* (Routledge) and, with Hannah R. Gerber, *Game Night at the Library: It's More than Just Play* (VOYA). Along with Hannah R. Gerber, Jen Scott Curwood, and Alecia Magnifico, Abrams is co-authoring the forthcoming book, *Qualitative Methods for Researching Online Learning* (SAGE).

CONTRIBUTORS

Anne Burke is an Associate Professor in Literacy Education and Early Learning at Memorial University. She researches and writes about the evolving role of play in children's digital and immersive worlds, multimodality, and the growth of social media in children's early learning engagements. Much of her recent SSHRC research, conducted in Canadian classrooms, has focused on play and virtual worlds developed specifically for children, and how children's interactions with these virtual worlds affects their reading, writing, authoring, and social presence in and out of school. Recent book titles include *Children's Virtual Play Worlds: Culture, Learning and Participation* (co- edited with Jackie Marsh) *Play to Learn*, *Assessing New Literacies: Perspectives from the Classroom* (co-edited with Roberta Hammett)

Chu-Chuan Chiu is a doctoral candidate in the School of Teaching and Learning with a specialization in Language Arts, Reading, and Children's Literature at the University of Florida. She holds a master's degree in Curriculum and Instruction, with a concentration in ESOL/Bilingual Education from the University of Florida. Her research interests center around disciplinary literacy, reading and writing instruction, and ESOL/bilingual education.

Maria R. Coady is an Associate Professor of ESOL/Bilingual Education in the School of Teaching and Learning at the University of Florida. Her research interests include teacher preparation for English learners in mainstream classrooms; and home-school-family partnerships for immigrant EL families. Dr. Coady is currently Professor on Special Assignment for International Educational Programs in the College of Education.

Javier Corredor has a Ph.D., on Cognitive Studies in Education from the University of Pittsburgh. During 2010, he collaborated with the Games and Learning Society

as visiting scholar at the University of Wisconsin-Madison, where he developed the basic ideas for this chapter. Currently he works at the psychology department of Universidad Nacional de Colombia. His work focuses on the relationship among cognition, media and education. He is interested on the process of learning in informal environments, and on the impact of technology on human thinking, language and identity.

Jen Scott Curwood, Ph.D., is a senior lecturer in English education and media studies at the University of Sydney in Australia, where she is a lead researcher in the Sciences and Technologies of Learning Network and affiliated with the Centre for Research on Computer-Supported Learning and Cognition. Her research focuses on adolescent literacy, technology, and teacher professional development.

Matthew Gaydos, Ph.D., is a research scientist at the Learning Sciences Laboratory at the National Institute of Education in Singapore. He received his Ph.D. in Curriculum and Instruction from the University of Wisconsin – Madison where he worked with Kurt Squire and Constance Steinkuehler as a part of the Games+Learning+Society group.

Susan Goldstein received her master's in TESOL at Teachers College, Columbia University. She teaches English as a second language in the Port Washington School Union Free School District at the secondary level. Her current interests include supporting the academic and social needs of students with interrupted formal education (SIFE).

Trent Hergenrader is an Assistant Professor of English at the Rochester Institute of Technology where he teaches creative writing and literature courses, many of which incorporate games. His fiction has been published in The Magazine of Fantasy & Science Fiction,Realms of Fantasy, Best Horror of the Year and elsewhere, and his work on games and writing has appeared in in the proceedings of the Games+Learning+Society Conference 7.0 and 9.0 and in the collection Dungeons, Dragons, and Digital Denizens: The Digital Role-Playing Game. He is co-editing a collection entitled Creative Writing in the Digital Age to be published in 2014.

YunJoon "Jason" Lee, Ph.D. in Curriculum and Instruction awarded from The Pennsylvania State University. His interests in research include sociocultural theory, language socialization and virtual ethnography in second language development. He focuses on second language acquisition through massively multiplayer online games. Additionally he works with incorporating media (movies and TV dramas) materials and technology into language learning classrooms. Over the years, he has presented and published on second language learning related topics on online gaming and media usage in classrooms.

Zhuo Li, Ph.D., is an Assistant Professor of English at the South University of Science and Technology of China. She obtained her M.Ed. in English Education at Georgia Southern University and Ph.D. in ESOL/Bilingual Education at the

University of Florida. Her research interests include cross-cultural communication, multiliterate approaches to language learning, and applying educational technology to second language acquisition and foreign language learning with a focus on English language learning through computer games.

Lan Ngo is a Ph.D. candidate at the University of Pennsylvania Graduate School of Education. A former English as a second language teacher, her research interests focus on the language and literacy practices of immigrant students and English language learners in the United States.

Charlotte Pass, Ph.D. is an Associate Professor of Literacy at the State University of New York at Cortland. Her research interest lies in working with marginalized student populations, with emphasis on second language literacy. During her career, she has presented at numerous conferences about second language pedagogy and has published in national and international journals, including *Critical Inquiry in Language Studies.*

Nora A. Peterman is a Ph.D. candidate at the University of Pennsylvania Graduate School of Education. A former Reading Specialist for out of school youth, her research interests include adolescent literacies, children's and young adult literature, and urban education.

Mary Rice is a doctoral student at the University of Kansas in the Curriculum and Teaching Department. She taught junior high for 10 years and has published widely in the areas of curriculum and adolescent literacy. Her research interests include curriculum and literacies. Her book, *Adolescent Boys' Literate Identities* was named Publication of the Year by the Narrative SIG of the American Educational Research Association.

Ryan M. Rish, Ph. D. is an assistant professor of English education at Kennesaw State University where he works with pre- and in-service middle and high school English teachers. Before joining KSU, he taught high school English in Ohio and Tanzania.

Julie Warner, Ed.D., received her doctorate from Teachers College, Columbia University in Curriculum and Teaching with an emphasis on Literacy and Co-Director of the Coastal Savannah Writing Project. She is a Lecturer of English at Armstrong State University. Her work engages the intersections of literacy, computational thinking, and education for social justice.

CHAPTER ABSTRACTS

SECTION ONE: (RE)CREATING WORLDS AND TEXTS

Chapter One
Exploring Imaginary Maps: Collaborative World Building in Creative Writing Classes
Trent Hergenrader
Abstract: This chapter examines open worlds in the popular digital role-playing games (DRPGs) *Fallout 3 (2008) and Elder Scrolls V: Skyrim* (2011) and how they can be used in fiction writing classrooms. Using fan-created websites as models, students can collaboratively build a sprawling and compelling fictional world, populated with hundreds of unique items, locations, and characters using free online tools such as wikis and Google maps.. This approach also hones students' technical skills with digital tools while still addressing craft concerns typically addressed in creative writing courses, such as character development and scene setting.

Chapter Two
Students' Transmedia Storytelling: Building Fantasy Fiction Storyworlds in Videogame Design
Ryan M. Rish
*Abstract:*This chapter provides an overview of a new media project in which high school students developed fantasy storyworlds with writing, digital cartography, and videogame design. A transmedia analysis of one student's videogame demo is detailed to provide educators with a meta-language for supporting students in new media exploration and project development. The chapter concludes with ways this particular world-building project involving videogame design can be adapted to support new student roles, practices, and projects in classrooms.

Chapter Three
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Jen Scott Curwood
Abstract: Drawing on ethnographic research of adolescent literacies related to *The Hunger Games* novels, this chapter explores the nature of interest-driven reading, writing, and gaming. The Multiliteracies framework offers insight into the ways in which literacy is effectively shaped by available modes and semiotic resources. The chapter offers a case study of an Australian teen and shows how she employs Multiliteracies in order to deeply engage with literature and participate in an online role-play game.

Chapter Four
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Anne Burke
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SECTION TWO–MASSIVE MULTIPLAYER SECOND LANGUAGE LEARNING

Chapter Five
Massively Multiplayer Online Gaming and English Language Learning
Jason YJ Lee and Charlotte Pass
Abstract: This chapter illustrates the use of Massively Multiplayer Online (MMO) games in English language learning (ELL). Due to globalization, the importance of English language learning has increased. This transformation is similar in U.S educational settings because of the growing population of immigrants entering U.S. schools and universities who invest large sums of money in English language learning (ELL) education. However, the changing educational landscape has not adapted adequately to fully incorporate ELL students into mainstream classrooms. In this chapter we would like to share one strategy to provide ELL students with greater access to the English language and to further integration, a popular online game genre: MMO.

Chapter Six
Language Games: How Gaming Communities Shape Second-Language Learning
Javier Corredor and Matthew Gaydos
This chapter explores the link between videogames and literacy through the lens of bilingual interaction in gaming contexts. In order to achieve this goal, this research presents a qualitative study showing how the situated nature of gaming contributes to the development of second language proficiency in non-bilingual contexts. The study starts by describing the structure of MMORPG's gaming communities in Latin-America, the constraints those communities face, and the way they overcome those constraints. After that, the chapter describes how the characteristics of gaming shape social and gaming interactions in MMORPG games, defining in this way the role of second-language written communication skills as a tool for participation. Additionally,

the study describes the characteristics of bilingual literacy in gaming communities, showing the effects of gaming in several aspects that include code-switching, abbreviated language, and situated meaning. The chapter also presents the learning practices, the peer-collaboration strategies, and use of online resources that support the development of second language literacy. Finally the chapter explores the lessons of this research for second-language literacy and education of adolescents not exposed to second language at home in the USA and Latin-America.

Chapter Seven
The Transformative Power of Gaming Literacy: What Can We Learn from Adolescent English Learners' Literacy Engagement in *World of Warcraft (WoW)*?
Zhuo Li, Chu-Chuan Chiu, and Maria R. Coady
Abstract: 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*). Through an ethnographic multiple case study approach, 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.

SECTION THREE–VIDEOGAMES AND CLASSROOM LEARNING

Chapter Eight
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Mary Rice
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Chapter Nine
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Lan Ngo, Nora A. Peterman, and Susan Goldstein
Abstract: This chapter describes the collaboration between university researchers and a high school English as a second language (ESL) teacher in the development of a videogame designed to support language and literacy instruction for a specific group of English Language Learners (ELLs). The chapter details the collaborative nature in which an instructional unit on the topic of bullying was developed, and the manner in which the videogame was incorporated into the objectives for learning. A reflection on the outcomes of the project is included, as well as a discussion including implications for extending these findings to new learning contexts.

Chapter Ten
Writing in Virtual Worlds: Scratch Programming as Multimodal Composing Practice in the Language Arts Classroom
Julie Warner

Abstract: This chapter presents a rationale for using Scratch programming in the English Language Arts classroom based in the connections between gaming and literacy. Writing computer programs recruits skills that transfer to academic writing, like planning, revision, and even grammatical knowledge. The author argues illuminates the relationships between computational thinking and traditional as well as 21st century literacy skills.

SANDRA SCHAMROTH ABRAMS & HANNAH R. GERBER

BRIDGING LITERACIES

An Introduction

The concept of bridging literate practices is deeply rooted in foundational principles of education. Dewey believed that relevant teaching incorporates what students do outside the classroom and that "learning and thinking should emerge from the lives of students" (Simpson, 2006, p. 93). Turn-of-the-century calls to bridge the gap between inside and outside school practices (Alvermann, 2002; Hull & Schultz, 2003; Hynds, 1997) also were rooted in understandings of rich literate experiences outside school, which included 'pictorial turns' (Hynds, 1997) and expansive understandings of literacies that represented sociocultural meaning making. In other words, though print text remained important (and typically privileged in school), traditional reading and writing were not seen as the sole literate experiences in people's lives. More than ten years later, despite differentiated instruction and attempts to integrate authentic experiences in the classroom, the gap between inside and outside school experiences continues to widen, often exacerbated by rapid technological change that typically impacts the social sector well before the academic one. When we insert videogames into the equation, the gap feels like a chasm.

When not in school, ninety-seven percent of today's youth play videogames (Lenhart, et. al, 2009). McGonigal (2011) has called attention to the prolific use of videogames worldwide, and she has estimated that youth will spend over 10,000 hours in these virtual worlds by the time they reach graduation; yet these youth will spend far less time engaged with traditional reading and writing. It is not that games are 'bad' for students; on the contrary, research has suggested that gaming has positive cross-disciplinary implications and applications (Abrams, 2009, in press; Gee, 2007; Gerber & Price, 2011; Steinkuehler, 2007; Squire, 2012). Further, games have inspired student-generated texts commonly developed in commercial and fan-driven sites (Curwood, Magnifico, & Lammers, 2013; Gerber & Price, 2011) that have also emerged in classroom spaces (Apperley & Beavis, 2011; Beavis, Apperley, Bradford, O'Mara, & Walsh, 2009; Glazer & Hergenrader, 2014). However, classrooms typically do not include the trial-and-error learning of games, and "classrooms usually do not have multiple routes to participation, engaging their students in different ways, to different levels, in different contexts" (Gee, 2004. p. 81). Nonetheless, when a curriculum centrally includes videogames, what

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 1–7.

emerges is meaning making across domains, texts, and various resources, as well as student-directed inquiry that is augmented by peer and teacher support (Gerber, Abrams, Onwuegbuzie, & Benge, 2014). Although videogames can encourage and foster student-driven learning and literacy experiences, youth often do not see the connections that their gaming literacies have with academics (Abrams, Gerber, & Burgess, 2012) unless gaming and games-based learning are approached purposefully; students need multiple opportunities to make cross-literate connections with the materials used in class (Abrams & Gerber, 2014).

Though national standards, such as the Common Core, in the United States underscore student-driven learning, what remains is teaching that often does not including gaming, or gaming-related practices within the curriculum. Scholars, like Webb (2012), have attempted to bridge this gap and have created projects, such as the Literary Worlds Project, for teachers to explore using virtual worlds as immersive learning experiences in the field of English language arts. This includes pairing role-playing experiences with literature, similar to Rozema's (2012) pairing of *Brave New World* and reader-response within virtual worlds. This project, among other initiatives, such as the Quest to Learn Schools, provide student-driven game-based experiences; however these experiences will remain few and far between in mainstream education without extensive guidance from field experts or teachers who understand gaming and the connections that gaming has with content and pedagogy. Though studies have indicated that teachers desire to incorporate games and games-based learning into English language arts classes, barriers (e.g., the lack of resources, time for planning, and lack of peer and administrative support) make the integration of videogames a difficult task (Gerber & Price, 2013). This underscores the imperative for more work in this field if we hope to bridge gaming and learning within literacy classrooms. With the 2014 New Media Consortium Horizon Report positing that gaming will be important for creating innovative learning opportunities, it is essential to consider multiple ways to bring gaming experiences to the forefront. This edited compilation attempts to draw attention to these varied practices.

Bridging Literacies with Videogames brings together international studies from established and emerging scholars in an effort to advance the discussion about videogames and student learning. In so doing, the research corpus works to bridge the gap between students' out-of-school gaming lives and their in-school literacy experiences. The range of studies include diverse populations and consider the implications of videogames and game-related media on literacy learning inside school, with a particular focus on students' reading, writing, and knowledge acquisition.

This text is divided into three sections, (Re)Creating Worlds and Texts, Massive Multiplayer Second Language Learning, and Videogames and Classroom Learning. Across the chapters, the authors feature their individual research, but there remains a practical and pedagogical focus on games and learning. The first section, (Re)Creating Worlds and Texts, addresses writing development through game-related resources.

In Chapter 1, Trent Hergenrader embraces the concept of environmental storytelling (Jenkins, 2004) in his university creative writing course using free online tools, such as wikis and Google Maps. He explores fictional, collaborative world building through the best-selling Bethesda Game Studios games, *Fallout 3* and *Elder Scrolls V: Skyrim*, and Hergenrader reveals that the use of digital resources supports the development of discrete writing skills. Following Hergenrader's work, Chapter 2 includes another perspective of literacy development when Ryan Rish examines collaborative fantasy and science fiction world building in a high school English language arts class. Students explored a variety of texts and media through the discussion and creation of fictional worlds not only using free map-making software, AutoRealm and Terragan, but also creating demos of their worlds through RPG Maker XP. Rish argues that this type of instruction and collaborative activity support problem solving and learning through trial and error.

In Chapter 3, Jen Scott Curwood's work calls attention to the role of remix in youth's meaning making experiences. Curwood focuses on the case of 17-year-old Australian girl, Georgia, who used the social media site, *Tumblr,* to co-design a role-playing game based on *The Hunger Games* trilogy. As such, Curwood posits that the use of online role playing can "offer a powerful way for [youth] to demonstrate their leadership, develop their literacy skills, and engage in self-directed learning." Following Curwood's work, Anne Burke's chapter also addresses game-related writing. More specifically, in Chapter 4, Burke focuses on the literate experiences of three Canadian elementary-aged girls who self-identify as expert players of Disney's virtual world, *Club Penguin.* Burke explores how multimodal interactions inform the girls' literate practices, critical thinking, and problem solving.

The next section, Massive Multiplayer Second Language Learning, includes three chapters that examine how English language learners develop literacy skills through and around their engagement in massive multiplayer online role playing games (MMORPGs). First, in Chapter 5, Jason YunJoon Lee and Charlotte Pass provide a review of literature that helps to situate the sociolinguistic aspects of MMORPG experiences in relation second language learning in the United States. They conclude with practical suggestions for reading, listening, speaking/presenting (expressive language), and writing. Providing an international perspective of second language learning, Javier Corredor and Matthew Gayados examine the socio-political implications of Internet-based games in Colombia. In Chapter 6, they focus on the development of a *de facto mestizo literacy, "*that is, a literacy where several hybrid sources of activity and cultural traditions are negotiated according to pragmatic, identity and cognitive constraints. Mestizo literacies are blurring the frontiers between first and second languages through written interactions in online environments." In so doing, Corredor and Gayados reveal how youth and young adults who come from working class environments encounter informal language learning within massively multiplayer online videogame environments, and they suggest that second language learning should focus less on formal content transfer and more on participation in communities and identity development.

Returning to the study of second language learning in the United States, Zhuo Li, Chu-Chuan Chiu, and Maria Coady examine how four male native Chinese speaking adolescents developed second language literacy practices through their engagement in the MMORPG, *World of Warcraft*. More specifically, in Chapter 7, Li, Chiu, and Coady focus on information seeking, strategizing, problem solving, and socializing that take place in both in-game and out-of-game online environments. As a result, they call attention to the various Internet-supported activities and practices that support second language learning.

Though each chapter offers ideas for practice, the third section, Videogames and Classroom Learning, specifically focuses on videogames as pedagogical resources. In Chapter 8, Mary Rice examines ready-made lesson plans for videogames for teachers. Her content analysis reveals that, of the limited free lesson plans available, more addressed teaching *about* videogames rather than teaching *with* videogames. Further, Rice calls attention to conflicting agendas (of teachers, companies, and academics) that seem to impact the development, dissemination, and integration of innovative and flexible lessons. Also attending to implementation, Lan Ngo, Susan Goldstein, and Nora Peterman underscore the student-teacher-videogame connection in the development of critical thinking and agency in learning. Chapter 9 features the authors' discussion of how a *Gamestar Mechanic* game that focused on bullying also supported second language learners' development of literacy skills, such as inferences, predictions, and text connections. Not only do the authors focus on gaming as a literacy practice, but also they suggest that videogames can act as a scaffold and entry point for second language learning. Finally, Julie Warner's work in Chapter 10 provides a close look at the composition process in relation to game development. Warner's conceptual piece focuses on the elements of *Scratch*, a free videogame coding program developed by MIT, and she suggests a number of ways the game and its multimodal features can inform the teaching of rhetoric, genre, grammar, and revision.

ACROSS THE CHAPTERS

Throughout this volume, there are concepts explicitly or implicitly linking the featured work. We bring these to the fore (in alphabetical order) in an effort to support the reading of the individual chapters, as well as the corpus of findings.

> Affinity Spaces: Examining social practices, Gee (2004) has suggested that people make and share meaning making experiences in, what he calls, an affinity space. An affinity space is based on common interest, and there are diverse and flexible routes to participation, access, status and leadership; "newbies and masters and everyone else share common space" and they can contribute as much or as little as they please (p. 77). Affinity spaces are more than just places to "hang out," though; the knowledge sharing that exists in an affinity space often begets remix and content transformation. Gee and Hayes

(2011) have provided a refined understanding of affinity spaces by focusing on passionate affinity-based learning, which "occurs when people organize themselves in the real world and/or via the Internet (or a virtual world) to learn something connected to a shared endeavor, interest, or passion" (p. 69).

Multimodality: Multimodality acknowledges that meaning making involves a number of modes, including, but not limited to, image, sound, and gesture (Kress & Van Leeuwen, 2001). The concept of multimodalities helps to locate, identify and clarify the many ways modes cohere and are part of socially, culturally, and embodied meaning making; multimodal literacy includes "social practices and configurations, of purposes, goals, aims, tasks; and of affect" (Kress, 2010, p. 137).

Paratexts: Many times, youth will create new written or digital stories related to existing virtual and non-virtual texts. Apperley and Walsh (2012) explain that "the term 'paratext' is useful for helping teachers and practitioners familiarise themselves with the wide-ranging print and multimodal texts that circulate in digital gaming cultures. Digital game paratexts represent print and multimodal texts (walkthroughs, video tutorials, fan fiction, fan art, for example) that are easily accessible to teachers and practitioners, when digital games themselves are not" (p. 116). Paratexts represent more than accessibility; they are examples of youth making meaning in a variety of ways and taking ownership of their textual experiences through a remix of images and ideas. As such, "digital game paratexts can work as a useful segue because they conform most closely to the textual requirements of the 'official curriculum' to introduce digital games into literacy and English curricula" (Apperley & Walsh, 2012, p. 116).

Remix: "Remix means to take cultural artifacts and combine and manipulate the into new kinds of creative blends" (Knobel & Lankshear, 2008, p. 22). It is the combination of related and/or unrelated elements, such as genres, images and sounds, to create a new text that is different from the original. Knobel and Lankshear (2008) have suggested that this hybridization is limitless and, though remix may seem like a simple way to include students' literacies in the classroom, it is a complex socially-situated practice that needs to be honored, not disregarded by classroom norms.

In addition, though each author elaborates on the particular game he/she examines, we provide brief descriptions of some of the featured games below as a guide for readers:

Club Penguin: Owned by Disney, *Club Penguin* is an advertisement-free virtual play space for youth to create and play games. The site is heavily regulated in the name of user safety.

Fallout 3: *Fallout 3* is an award-winning role-play game published by Bethesda Game Studios, and the game is set in a post-apocalyptic world in a fight for survival. A role-playing game (RPG) is a game (digital or non-digital) in which

the player adopts the traits of a fictitious character as he/she encounters game play in an online or offline setting. *Fallout 3* also is an open world game, one which enables players to freely explore virtual environs. Though there is a semblance of open exploration, there are boundaries and/or storylines that guide players through a main quest and/or side quests.

Gamestar Mechanic: Created by E-Line media, *Gamestar Mechanic* is a videogame-based community that helps to promote learning and discovery through game design. According to the site, gamestarmechanic.com, the program is "a game-based digital learning platform geared at 4th to 9th grade students that is designed to teach the guiding principles of game design and systems thinking in a highly engaging and creative environment."

Scratch: Developed by MIT, *Scratch* offers a simple approach to game building. Users insert pre-designed buttons and directives to make the avatar move and interact with various materials in the virtual context. As noted on the *Scratch* wiki (http://wiki.scratch.mit.edu/wiki/Game_Projects), *Scratch* can host a number of types of game development.

Skyrim: Skyrim is an award winning game that is part of the *Elder Scrolls* series (*Elder Scrolls V*) published by Bethesda Game Studio. It is set in the fantasy world with orcs, elves, and trolls and, like *Fallout 3*, it is a open world, role playing game.

World of Warcraft: The largest online role playing game world-wide, Blizzard's *World of Warcraft* engages players in team (guild)-based adventures commonly known as quests. *World of Warcraft* is a massive multiplayer online role playing game. As noted above, a role playing game is one in which the player assumes the traits of the character to play the game in the fictitious setting. A massive multiplayer role playing game (MMORPG) includes such behavior in a game in which multiple people play together through a persistent world, or a world that continues to thrive and time continues to elapse even when the player is not logged on.

A NOTE ABOUT THIS EDITED VOLUME

This edited compilation brings together diverse, interrelated studies and theoretical constructs in an effort to bridge the gap between youths' literacies with a specific focus on videogames. The chapters may feature the ideas and voices of the authors, but reviewer suggestions helped to shape the overall volume. All chapters underwent a double-blind review by two-to-three reviewers. Because videogaming is an emerging field of study we also invoked the voices of doctoral students who are developing their understanding of videogames through a contemporary perspective. When doctoral students served as reviewers, the involved manuscripts also were reviewed by two seasoned scholars, thereby enriching the feedback and process.

Overall, this volume represents a cross-section of experiences and voices from the field as it provides research-based discussions about bridging literacies with videogames.

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SECTION ONE

(RE)CREATING WORLDS AND TEXTS

TRENT HERGENRADER

1. EXPLORING IMAGINARY MAPS

Collaborative World Building in Creative Writing Classes

Instructors of college-level fiction writing courses typically employ some form of the workshop method developed at the University of Iowa in the first half of the twentieth century. While many workshop variations exist, the basic principle is that students produce original short stories that are read and critiqued by other members of class and the instructor (Donnelly, 2012). Instructors often choose between textbooks filled with writing examples, assign stories written by their favorite authors, or limit discussion to student-produced work. Although recently the traditional creative workshop has come under scrutiny and prominent creative writing scholars (Donnelly, 2012; Donnelly & Harper, 2012; Mayers, 2005; Ritter & Vanderslice, 2007; Wandor, 2008) have called for alternative approaches to teaching, the workshop model remains a cornerstone of creative writing pedagogy today.

Although the reading and writing habits of students have changed dramatically in an age of multimedia storytelling, creative writing as a discipline has been slow to adopt new pedagogical approaches. Amato and Fleischer (2002) anticipated the proliferation of Web 2.0 Internet technologies that encourage user-generated content and foster the formation of virtual communities, and they suggest ways that networked writing could reshape the way instructors and students engage with the institutional spaces afforded by university creative writing classes. Creative writing instructors can also look to scholarship in rhetoric and composition, where it has been argued that writing instructors should be expanding notions of literacy and composition by broadening the scope of texts we incorporate in our classrooms (Wysocki, Johnson-Eilola, Selfe, & Sirc, 2004). For example, Haake (2007) argued that creative writing instructors should incorporate varieties of texts that "speak" to our students, which include graphic novels and non-print media such as film and videogames. For progressive instructors of creative writing, the move is away from the kind of imitative production of a literary text that underpins the logic of the traditional workshop model and toward a pedagogical framework that foregrounds questions of authorship, audience, and the historical and material conditions of creative writing in a digital age (Koehler, 2013).

If we break from using traditional print texts as models for student consumption and production we can structure creative writing classes to hone new sets of skills that will be crucial to students' success in the twenty-first century, specifically those that involve collaboration and networking. Jenkins (2009) outlined eleven such new skills: play, performance, simulation, appropriation, multitasking, distributed

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cognition, collective intelligence, judgment, transmedia navigation, networking, and negotiation. Other scholars (Beach, Anson, Breuch & Swiss, 2008; Wilber, 2010) argued that English instructors should be incorporating collaborative work through blogs, wikis, and digital storytelling to help develop these new literacies for today's students; others (Black, 2008; Magnificio, Lammers, & Curwood, 2013) looked for classroom inspiration in the Internet fan cultures surrounding popular books, films, and games. By bringing such practices into our English classrooms, we not only provide valuable space for students to experiment with and receive feedback on writing using new technologies but also help them navigate the kinds of group-based work commonly found in today's workplaces.

With these goals in mind, I have designed experimental creative writing courses around tabletop and digital role-playing games (RPGs). Recent research on tabletop role-playing games (TRPGs) has been varied and far reaching, discussing issues such as the production of narrative (Cover, 2010), their many positive social functions (Bowman, 2010), and an analysis of the TRPG as a performance that draws from many media (Mackay, 2001). Due in part to the explosion in popularity of online gaming, digital role-playing games (DRPGs) have also garnered significant academic attention in recent years (Barton, 2008; Harrigan & Waldrip-Fruin, 2010; Voorhees, Call & Whitlock, 2012). Drawing concepts from this work, my experimental courses have emphasized collaboration and networked writing by having students build fictional worlds modeled after DRPGs and the participatory culture that accompanies them (Hergenrader, 2011).

I argue that a DRPG is a multifaceted text that can be explored, examined, and deconstructed in the context of a fiction writing course as a way to explain concepts of narrative craft to novice fiction writers. DRPGs are hugely popular due to the number of options they present to players and how each choice the player makes has far-reaching consequences for his or her character. The narrative in DRPGs develops from characters interacting with their environment, and thus *movement* is a key feature of the DRPG; to put it simply, the DRPG narrative requires a detailed character moving across a fictional space: a map. This chapter focuses on two DRPGs developed by Bethesda Game Studios, the post-apocalyptic *Fallout 3* (2008) and epic fantasy *Elder Scrolls V: Skyrim* (2011), and discusses the central role their game maps play in developing players' understanding of their fictional worlds and their characters' places within it. Secondly, I show how the fan wiki sites cataloging the worlds of these games serve as excellent models for large-scale collaborative world building projects in a creative writing classroom. Finally, I explain how writing instructors can use wikis and Google maps to have their students create their own sprawling, complex fictional worlds.

BEFORE YOUR FIRST STEPS: PARATEXTS AND CHARACTER CREATION IN DRPGS

Most fiction workshops allow participants to write what they want without adhering any shared theme. This freedom can cause problems for students unfamiliar with

literary fiction, as they neither know what to write nor what to expect from other's writing. Players of videogames on the other hand have a strong sense of what kind of narrative the game will provide. In our media saturated society it's rare for a player to receive a game in a vacuum. Through the game's paratextual elements (Genette, 1997) —that is, the multiple and diverse texts that surround the primary text but are not the text itself, such as its packaging, blurbs, trailers, reviews, etc.—players will have preconceived notions of what lies in store for them (Jones, 2008), and usually these notions are quite accurate.

What kind of experience does the DRPG promise? Typically they offer quests of epic proportions where nothing short of the fate of the world hangs in the balance. Following the stereotypical quest narrative of fantasy literature (Mendlesohn, 2008), the protagonist rises from obscurity to a position of immense influence where his or her decisions impact the fate of the land. The paratexts of the DRPG set the stage for the narrative; for example, the packaging and trailers for the epic fantasy *Skyrim* prominent feature armor-clad warriors fighting dragons atop snow-covered mountains, and the paratexts of *Fallout 3* offer visions of a shattered post-apocalyptic world full of depravity and danger. Most players are already well-acquainted with the fantasy and post-apocalyptic genres through a variety of media, including film and print, and they will want these games to deliver on the DRPG genre's primary feature of exploration. In order to save the world, players first need to come to know it.

When it comes to what your character is supposed to do DRPGs are intentionally vague. The *Skyrim* instruction manual provides no explanation of the game beyond game controls but includes in the game-case a 16-by-21-inch foldout map of the province of Skyrim, featuring the major strongholds and a smattering of smaller towns and geographic features (Figure 1). Even a first-time player of a DRPG will expect to spend much of the game exploring this expansive space and learning what else it holds. In contrast, *Fallout 3* has no map included with the game but the instruction manual, called the "Vault Dweller's Survival Guide," identifies exploration as a primary task and goal in itself. The opening pages explain that the game opens with the character's father mysteriously fleeing from the safety of an underground vault into the post-apocalyptic wasteland. The manual reads:

> Now here's the good news. When that giant vault door slides open and you're thrust into the harsh sunlight of the Capital Wasteland, you're completely free to make your own destiny. Follow after dear old Dad… or forget he even exists. Head straight into the ramshackle town of Megaton, and meet its eclectic inhabitants… or shoot first and exchange pleasantries later. (p. 2)

The paratextual elements of both games strongly indicate—implicitly in *Skyrim* and explicitly in *Fallout 3*—that freedom and discovery will be central to game play, and they give clues as to nature of the world and types of challenges players will face. This understanding helps players quickly settle into a world and encourages their exploration.

Figure 1. Paper map included in Skyrim's packaging. Elder Scrolls V: Skyrim [Xbox 360]. (2011). Bethesda, MD: Bethesda Softworks. Copyright Bethesda Softworks.

This sense of exploration carries over to the initial character creation sequence, which necessarily occurs at the start of the game since play cannot begin without a customized character. Unlike most action-oriented games, the DRPG gives players dozens of options to create a detailed, unique character. In the action game *Red Dead Redemption* (Rockstar Games, 2010) for example, players assume the role of John Marston, and every instance of John Marston has the same hairstyle, skin tones, and physical abilities. Players may equip him with different weapons and change his wardrobe, but he essentially remains the same character for every player and for the duration of the game. However, the player of a DRPG is confronted with dozens of character creation options that will dictate how the character can interact with the world (Hergenrader, 2012). In addition to determining their character's sex and race, players also choose from a variety of physical skills, traits, and abilities so numerous that it's highly unlikely that any two players would create an identical character.

DRPGs allow players to pursue whatever motivates them. In *Fallout 3,* the options for the player are clear: either track down your father or explore the world as you see fit. *Skyrim* opens similarly. After an opening action sequence the character can either go to the local jarl to find out more about the sudden reappearance of dragons, or can instead roam the province. Regardless of whether players chooses to follow the game's central storyline or seek random adventures, they are beset by a seemingly endless array of options. Every non-player character (NPC) the player encounters has information, goods for bartering, or requests for help that branch from the central

narrative and encourage further world exploration. With each encounter, players must contemplate the goals of their character and consider how they might approach such challenges given their character's abilities, equipment, and skill set.

For writing instructors, the paratexts and the opening character creation sequences of DRPGs offer much for classroom conversation. Many students read literary texts for searching for a correct interpretation, as though the author has buried some kernel of wisdom beneath layers of symbols and metaphors that must be deciphered. Whereas discussions of a given print story often coalesces around a handful of interpretations of what the plot might have meant, talking about students' experiences playing through the opening moments of a DRPG leads to a different kind of conversation. In my class, I used *Fallout 3* as a required text and asked students to escape the vault and find at least three new locations in the Capital Wasteland. The assignment prompted a vigorous and wide-ranging discussion of their initial impressions of the fictional world and the character creation strategies they employed in order to cope with the challenges they expected to face. We discussed the game's powerful imagery and talked about how the graphics and audio that set the game's stark tone might best be translated into prose fiction; we also discussed the players' physiological reactions to the most intense portions of the game—for example, the increased heart rate, sense of dread, and involuntary utterances they experienced while creeping through the darkness of a ruined elementary school. In a DRPG the player and character become fused in a single psychological space (Gee, 2007) and the details of the player's physiological experiences can be transferred to characters who experience similar stresses in a short fictional story (Hergenrader, 2012). Such discussions not only make students more critical players of games, but they also draw students' attention to specific craft concerns that can be translated to other forms of media, including fiction writing.

EXPLORING THE MAP

The first mission in *Fallout 3* is entitled "Escape!" and in *Skyrim* it is "Unbound." These apt titles project liberation and freedom, which is exactly what the games offer after the character creation sequence. The starting map in *Fallout 3* (Figure 2) shows traces of the old world's infrastructure, such as major roads and geographical features but the majority of the map is blank. Walking downhill from the vault, the character passes the carcasses of destroyed cars as he or she follows the broken pavement down to the town of Springvale where there are dozens of items to interact with: a safe the player can try to open; a propaganda-spouting robot to speak with; ruins to be searched for much-needed food and supplies; and meeting the drug addict Silver, who presents the player with the first of the game's many moral dilemmas. Springvale demonstrates that map locations serve as nodes for multiple narrative options.

Similarly *Skyrim* steers, but does not force, players toward the village of Riverwood. After the character escapes from bondage, a clearly marked trail downhill

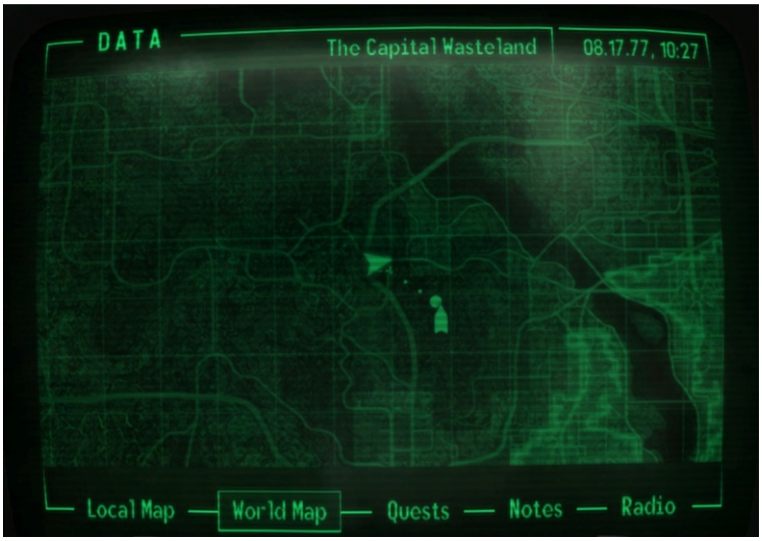

Figure 2. A mostly blank map depicting travel from the Vault to Springvale in Fallout 3. Adapted from Fallout 3 [Computer game], 2008, Bethesda, MD, Bethesda Softworks. Copyright Bethesda Softworks.

leads to a path beside a rushing river. Unlike the blasted terrain of *Fallout 3*, *Skyrim* offers a world of abundance. Characters can hunt deer, go fishing, catch butterflies, pick flowers, and mine precious elements to name just a few possible activities. In addition to the world's fantastical creatures like dragons, the world presents other more realistic dangers like bears and wolves that can be no less deadly. The player discovers that after killing an animal, the character can harvest its meat, pelt, antlers, and claws. For those new to DRPGs it might not be immediately clear *why* one would engage in such mundane collection activities, but the player quickly finds out through interaction with the world and its NPCs. For example, eating meat restores health and specific plants are ingredients for powerful potions; when the character arrives at a forge, the collected ores, gems, and pelts can be used to create weapons, armor, and even jewelry.

Fallout 3 and *Skyrim* compel players to explore via what Jenkins (2004) called "environmental storytelling" in which a game creates an immersive narrative experience for its players in at least one of four ways: the creation of *evocative spaces* that build upon our preexisting genre expectations; *enacting stories*, whereby a larger narrative arc is formed by a succession of localized incidents or micronarratives; *embedded narratives*, in which pieces of a larger story are distributed across a large story space; and *emergent narratives*, where rather than adhering to a rigid, linear plot, players can assemble their own personalized narratives from the materials and

rules provided by the game. Paratexts, genre awareness, and the character creation sequence provides strong clues to the challenges characters will have to overcome, but much of the game's subsequent appeal for players comes from exploring the detail-rich landscape that provides a plethora of story-making material.

In order to cope with the vastness of these fictional worlds and the myriad options players have when interacting with them, the game community has responded by cataloging the elements of the fictional world—all of its people, places, and things across all game titles in the series—in fan wiki sites such as *The Fallout Wiki* and *The Unofficial Elder Scrolls Pages (UESP)*. Because of the many variables in character creation and the vast openness of the world, players cannot share game strategies by using walkthroughs from beginning to end of the game. Instead, players inventory DRPGs in wikis where each character, location, and item has its own page, describing in detail how players may interact with it. Like most wikis, each entry features dozens of links to other entries, encouraging readers to continue clicking through pages to find out more about the world and the different relationships between its various elements. For example, in *Fallout 3* the player can recruit Dogmeat to be a canine companion. *The Fallout Wiki* page (Figure 3) lists this NPC's statistics, location, and provides a brief character history. The page contains links to other *Fallout 3*-specific elements such as the Scrapyard and raiders, as well as connecting the character of Dogmeat to elements present in previous titles in the game series. These fan-produced wikis dedicated to the *Fallout* and *Elder Scrolls* series are sprawling texts in themselves that invite readers to become more immersed in these fictional worlds even as they play.

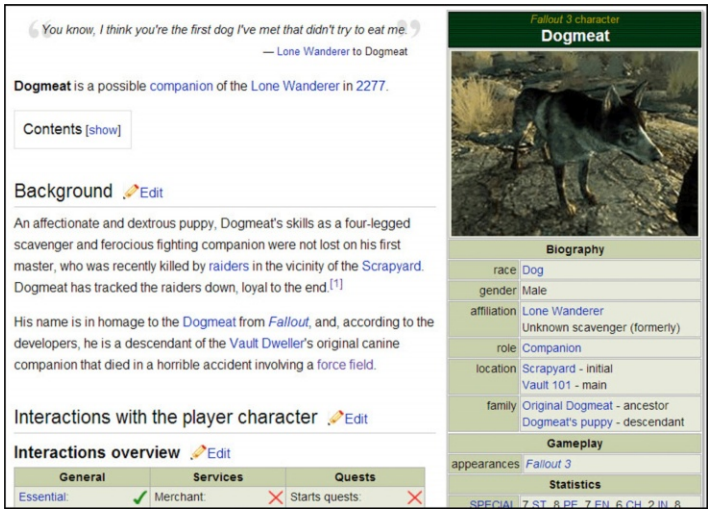

Figure 3. The Vault wiki page for Dogmeat, an NPC in Fallout 3. Adapted from "Fallout Wiki," retrieved on Feb 27, 2013 from http://fallout.wikia.com/wiki/Dogmeat_(Fallout_3).

EXERCISES IN MAPPING AND COLLABORATIVE WORLD BUILDING

Although students in creative writing courses will not be creating videogames, we can still borrow concepts from environmental storytelling to have students explore non-traditional aspects of fiction writing, including collaborative writing and thinking more critically about their creative production. DRPGs are unique in that they offer players many variables to adjust in order to produce different kinds of stories. Tinkering with different pieces of story-making materials is also a hallmark of teaching of creative writing as well; in fact, having novice writers engage in short-form experimentation is a cornerstone of conventional creative writing wisdom. Bernays and Painter (2010) argued that "by far, exercises are the more effective method for exploring the wonderful array of tools that every writer should have in their writer's toolbox" (p. xv), and Gardner (1991) stated that a small craft exercises provide necessary practice so the writer may learn to "construct imaginary worlds—huge thoughts made up of concrete details—so rich and complex, and so awesomely simple, that we are astounded" (p. 36). In the opening pages of her creative writing textbook, Burroway (2011) even referred to this process of experimentation a form of play: "serious, strenuous, dedicated, demanding, exhilarating, enthusiastic, repeated, perfected play" (p. 5). These creative writing instructors agree that beginning fiction writers have much to learn about craft through exercises that emphasize experimentation, discovery, and play.

As Turchi (2004) wrote in *Maps of the Imagination*, most creative endeavors "start with a blank: a world of possibility" (p. 28). The writer generally begins with staring at a blinking cursor on a white page, eager to fill in that space. Turchi's book, subtitled "The Writer as Cartographer," uses mapmaking as a metaphor for the creative process. I argue that creative writing instructors can take this metaphor more literally and, using sophisticated DRPGs as a guide, have students begin their creative endeavor by first building a world and plotting it on a map as a five-step process: *1) metanarrative development; 2) creation of items, locations, and characters; 3) map making; 4) world exploration*; and *5) writing short narratives*. This approach combines the practice of using discrete writing exercises to focus on craft while also emphasizing a collaborative creative process.

METANARRATIVE DEVELOPMENT

Beginning fiction writers, faced with the daunting expanse of the blank page, can benefit from being given parameters in which their stories must fit. In my courses, I explain to students that their writing will be part of a world that they will collaboratively construct. In order to maintain consistency in their fictional narratives, everyone must agree to a specific set of ground rules: a metanarrative, or an overarching story of the setting in which all their writing will take place. In class, we discuss dozens of world building variables, making decisions by using a combination of oral votes and online polls to develop the world. The top-level questions include: will the stories take place in our world or a different one? When

will they take place in history? What is the geographic area, the climate, and the season? Does this world contain any speculative or fantastic elements? What level of technology exists? Through a democratic process, the class steers the world to something that a majority of students will be interested in. From these few questions, students could choose to build anything from a medieval epic fantasy like *Skyrim* to a post-apocalyptic future of *Fallout 3* or even a realistic world similar to the one we inhabit.

With these large-scale questions answered, the class tackles more detailed and complex questions pertaining to the society. For example, I have them make decisions about the economic system including the distribution of wealth, levels of healthcare and education, social structures, political structures, and modes of transport. The differing ideas are recorded on a wiki and conflicts are resolved by vote. I steer the class away from any potentially totalizing statements or negative stereotypes, and instead try to add wrinkles that make the word more complicated and nuanced. This process foregrounds what Mayers (2005) called "craft criticism," or discussing the social, historical, and material conditions of creative writing, both for the writer as well as in the fictional world being represented. Unlike most creative writing courses, the collaborative process means that the individual writer does not get to determine how his or her fictional world operates; indeed, the world comes into being through compromise and negotiation, and students must consider how these various factors may or may not influence the kinds of characters they create and the challenges they might face.

Of course, the fictional world comes into being through the written word. All of these ideas, suggestions, conflicts, and resolutions are recorded on a basic wiki page, often in real-time as the discussion happens in class. In addition to this, I give students short writing assignments that require them to flesh out one or more of the areas of the metanarrative that most interests them. While this accomplishes the necessary task of record keeping, it's also a low-stakes writing assignment, a warm up where students can flex their writing muscles and receive feedback from their peers and the instructor. Importantly, students tend to relax because the assignments are short and they don't need to have all the answers. Deep knowledge about the world can only build over time as the world develops.

CREATION OF ITEMS, LOCATIONS, AND CHARACTERS

With the larger features of the world decided, world building shifts to a granular level as students are required to create *items*, *locations*, and *characters* to populate the world. Even with a medium-sized class the world builds out very quickly. In my classes I have had approximately 20-25 students and I have each of them create ten items, five locations, and five characters. That results in approximately 500 unique and diverse wiki entries that students can combine and configure in endless ways in their fiction.

Items can be anything from the mundane to the unusual, from the common to the very rare. *Fallout 3* and *Skyrim* provide plenty of examples in this regard as players find everything from chicken's eggs to cursed weapons. The nature of the world, as collectively determined by the class during the metanarrative discussion, dictates the kinds of items that exist in it, and how the characters will be able to interact with them. For example, a radio would not fit into the medieval world of *Skyrim* but would make perfect sense for the post-apocalyptic *Fallout 3*. Creating locations also prompts questions for classroom discussion, such as what locations would be most important in this world and how those locations tell us something about that culture's values. Creating the well-rounded characters who inhabit these locations also makes for a terrific exercise for students, especially if the instructor assigns characters random attributes such as their race, class, gender, and age, as well as requiring the writers to provide detailed back stories and personal histories for each character. Ideally, any well-crafted character could be plucked from the wiki and come to life in a story, primed with a strong personality, traits, and motivations. Populating of the wiki is, in practice, a series of specific, interconnected, craft-driven exercises that are low-stakes and achieve multiple purposes: they require writers to focus on isolated issues of craft; they populate a massive shared world; and students become more invested in the work of their peers.

MAP MAKING

Once the items, locations, and characters have been created, I have students plot them on a map of their fictional world using Google maps. First, the class must agree on the map's scale, since the size of the map will determine the density of world features. 500 wiki entries spread over a region will produce a very different map than one that has the same number entries plotted in the borough of Manhattan. The map's scale also directly impacts narrative possibilities. In a world built on an expansive map, the traversal of difficult terrain and the passage of time during travel are two important issues; however a densely packed urban world will draw attention to the subtle differences between city blocks, their establishments, and their residents.

Map making also opens space for critical discussions about urban planning and the politics of space. For example I ask my students: where are the most desirable places for commerce and personal residences, who lives there, and why them? Such questions require them to think critically about our own surroundings and the historical, economic, and political forces that have shaped them. Mapping also allows instructors to talk about omissions from the fictional world, either deliberate or otherwise. As Turchi (2004) wrote, "we need to be sure to choose our blanks, rather than omit parts of the fictional world that seem too large or complicated or bothersome to include" (p. 44). As instructors, we want our students to be sensitive to the groups who historically have been "written off of the map" and resist depicting only the most financially secure and socially mobile characters of the fictional world. In a traditional workshop, a complete draft would usually require significant revision

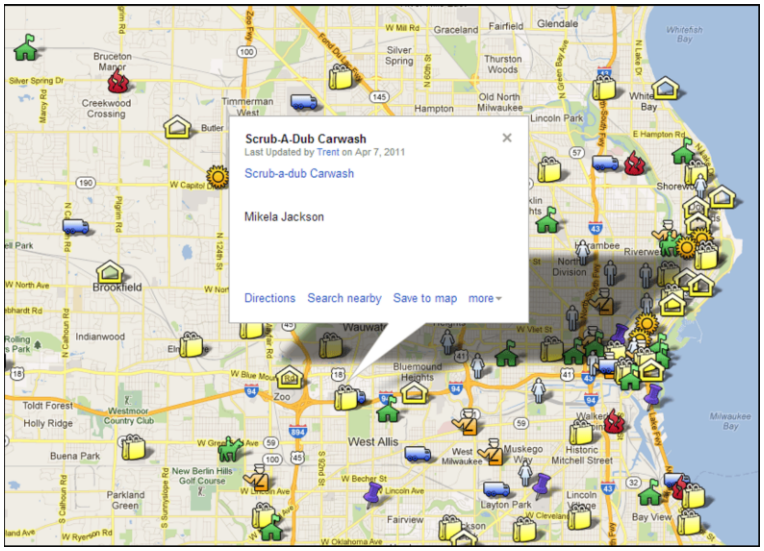

Figure 4. Post-apocalyptic Milwaukee Google map with a marker clicked revealing links to locations and characters in the wiki. Adapted from "Post-apocalyptic Milwaukee: English 236 - Gaming, world building, and narrative," by T. Hergenrader, (2011) retrieved on Feb 27, 2013 from http://goo.gl/maps/LLGK.

to address such critical issues brought up during a critique session, but in wiki world building any such exclusions can quickly be remedied by editing or creating new entries. This process of critical thinking also gives writers plenty of food for thought before they begin writing stories based in their fiction world.

WORLD EXPLORATION

World exploration can happen in any number of ways but the most crucial aspect is to require that students find new things in the world that they themselves did not create and incorporate those discoveries in their writing. In my courses, students explore their fictional world via a series of TRPG sessions. Before and after the play sessions, I focus students' attention on moments of decision for their characters; based on their understanding of the characters they're playing, why would he or she take that particular action at that specific moment? Typically, beginning fiction writers pose few problems for their characters as they simply respond in accordance with whatever the plot demands. In a TRPG narrative however, the player has limited control over the plot and must react to a rapidly developing situation that usually features unexpected circumstances (Cover, 2010). Those choices have repercussions, which in turn begets more choices. This helps writers "get inside the

head" of their characters, and they learn more about how and why their characters respond the way that they do to the challenges and obstacles the world presents as well as experiment with different personality types (Bowman, 2010).

The well-stocked map provides plenty of story-making material even without a TRPG component however. An instructor could randomly assign students specific characters and require that those characters move across a portion of the map in order to achieve some goal, perhaps even something as mundane as getting a cup of coffee. The student could write about what and who the character encounters during the journey, focusing on how the character would be inclined to interact with this world, and why. Another variation would be assigning students two random characters with two random items and having them meet in a specific location; a third exercise would be having students write a short history of a given location and its inhabitants. With a vast catalog of items, locations, and characters to draw from, instructors can tailor any number of exercises that ask students to focus on specific issues of characterization, scene setting, or other elements of craft, all while having students interacting with each other's writing in an engaged and meaningful way.

WRITING SHORT NARRATIVES

I cap my writing assignments at 1000 words, or vignette-length fiction, for several reasons. First, student writing is posted to a website where readers, conditioned by short blog entries and social media posts, typically expect shorter pieces of writing. Secondly, as Starkey (2009) noted, "there can be no dead spots" (p. 95) in vignette-length fiction and that "the art of fiction is, in part, the art of learning which things to include and which to omit" (p. 96). A good vignette is saturated with characters and setting and happens in a very condensed timeframe, a moment in time, which fits the model of environmental storytelling very well. Jenkins (2004) called them micronarratives, or very short stories that favor the details of spatial exploration over plot development. Even the most tightly plotted story will likely bore readers if it does not feature a vivid backdrop and interesting characters. Of course, once learned these craft lessons can be transferred to more traditional short stories and longer works as well.

Vignettes also take less time to write, read, and critique, meaning a student can write more fiction and receive prompt feedback. In many fiction writing classes, students have the opportunity to have only one or two finished stories submitted for critique over the course of a semester. In collaborative world building, students complete much more writing during the metanarrative and world building phases alone, and there is still plenty of time for students to write multiple vignettes set in their shared world. In my course with 24 students, each wrote four, 1000-word vignettes. In total, the class wrote roughly 96,000 words of fiction, or the length of a typical novel. Across this novel-length work, there are hundreds of hyperlinked connections between items, locations, and characters in what becomes a unique collaborative writing experiment. Examples of this writing can be found at the websites listed in the appendix.

IMPLEMENTATION

Such a large-scale project requires a significant investment of class time, though this will vary based on the course goals. In order to increase engagement, the project should be student-led and the timeline should be fluid as much as possible. Major decisions pertaining to the world occur during classroom discussion, where a range of ideas can be explored, debated, and decided upon. Writing can take place at the time of discussion in a campus computer lab or broken into take-home assignments. Likewise, the class can be divided into groups to develop specific aspects of the world; for example, one group might make the final decisions regarding the world's economy while another works on the political structure. The instructor should act a facilitator during this process, allowing the students as much leeway as possible to come to a group consensus and acting as the final arbiter in the case of disagreements.

Using wiki page templates for items, locations, and characters can be helpful and ensures a level of consistency between entries. It can also be helpful for instructors to assign students a certain number of entries fixed to specific categories to avoid potential imbalances in the wiki. For example, students are apt to develop a world with dozens of variations of weapons but with little to no variety of food or tools; likewise several students may wish to create a famous local landmark as a location, such as a museum, school, or ballpark. The instructor should help students think about what aspects of the world they have overlooked or ignored and invite them to collaborate when their interests merge. Collaborative world building is an ongoing, recursive process that provides plenty of opportunity for lively classroom discussion.

But these are only suggestions. A project with so many variables ultimately must be navigated and negotiated by the instructor and the students in each class. No matter what course structure the instructor decides upon or which direction the students choose to take, the creation of a vast fictional world requires continuous writing, both at the collaborative and individual level. Figure 5 provides a suggested eight-week schedule that can be tailored based on class size and course goals.

ASSESSMENT

Having students produce wiki entries as assignments allows the creative writing instructor to consider more factors than simply the technical merit of student writing. For example, instructors can take into account the student's ability to add both quality and quantity to the group project through the creation of appropriate entries and their inclusion of links to their classmates' pages (Beach, Anson, Breuch, & Swiss, 2009). Instructors may also judge whether students properly used the wiki's other features, such as tagging pages, and whether they enhanced the content of their pages with images, videos, or relevant outbound links. Entries may still be assessed according to traditional craft concerns such as the use of evocative descriptions, active sentence construction, and a consistent application of tone. No matter the criteria used, it is crucial students understand how their work will be assessed *before* the project begins.

Week 1: Play and discuss a digital RPG, with specific attention paid to character creation options, items, and locations in the world. Review online fan wikis dedicated to the RPG and discuss the structure of wiki entries.

Week 2: Class discussion of the metanarrative aspects of a fictional world, including details such as the genre (post-apocalypse, medieval fantasy, steampunk, cyberpunk, etc.), governance, social structures, economy, available technology, distribution of wealth, etc. Record all class decisions on the course wiki.

Week 3: Continue discussing the metanarrative aspects of the emerging fictional world, create item templates for the wiki, and assign students items.

Week 4: Create location templates for the wiki, assign locations, and plot them on a Google map. Students should create links between the location wiki entries and the map markers.

Week 5: Create character templates for the wiki, assign characters, and place them in locations.

Week 6: Finalize all aspects of the fictional world including the metanarrative details, items, locations, and characters. Begin fiction writing exercises and peer critiques.

Week 7: Continue writing exercises and peer critiques; discuss connections between networked stories.

Week 8: Wrap up critiques. Discuss the positives and challenges of collaborative writing practice and world building.

Figure 5. A suggested eight-week schedule with basic guidelines for building a collaboratively created fictional world.

Another advantage of using a wiki is the transparency of peer review and revision. Wikis include a discussion tab for each page on the site that allows readers to leave notes, ask questions, or provide feedback on any aspect of the work. Instructors can review and assess the student feedback provided and assess if the critiques focus on specific aspects of craft rather than being vague statements or based solely on opinion. In addition, wikis also include version histories for each page, showing the time, date, and changes made to the page. This makes the revision process visible for the students and instructor alike, as earlier drafts of the work can be compared with later, revised versions. It also provides space for the writer to explain the strategies employed during the revision process, providing a rationale for how he or she handled the feedback received. In total, the wiki gives the instructor a much more complete picture of a student's participation in the course, which includes their ability to maximize the features available in digital software, their contributions to a

group project, the ways they incorporate peer feedback into revised writing, and the critiques they provide others.

CONCLUSION

It is common for writing instructors to bemoan that today's students spend far more hours playing videogames than reading literature. Rather than viewing videogames as the enemy, I have argued that we can instead examine what makes these games compelling for their players and channel that interest and energy into fiction writing. DRPGs use paratextual elements and genre awareness to promise players that a world of open-ended adventures awaits them, and the gameplay delivers on this promise. DRPGs produce stories for their players by having customized characters move across a landscape teeming with narrative potential, and instructors can translate this into creative writing exercises that not only tap into the excitement and unpredictability of the environmental storytelling that occurs in DRPGs, but also it aligns well with traditional creative writing craft exercises.

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APPENDIX.

Website examples of incremental storytelling.

Rivertown Chronicles.

Created in the course English 236: Introductory Topics in Creative Writing – "Gaming, World Building, and Narrative." UW-Milwaukee, spring 2011.
Course
wiki: http://rivertown.wikispaces.com
Google map: <http:// goo.gl/maps/LLGK>

Calypsis: A Hypertext Fiction.

Creative dissertation by W. Trent Hergenrader set in Rivertown.
Site: <http://www.trenthergenrader.com/calypsis>

Hellwaukee.

Created in the course English 236: Introductory Topics in Creative Writing – "Digital Storytelling and Role-Playing." UW-Milwaukee, spring 2013.
Course
wiki: http://hellwaukee.wikispaces.com
Google map: <http:// goo.gl/maps/ R1tQh>

RYAN M. RISH

2. STUDENTS' TRANSMEDIA STORYTELLING

Building Fantasy Fiction Storyworlds in Videogame Design

World building is the art of creating a fictional world or universe. Authors, moviemakers, and videogame designers build fictional worlds in which to engage readers, viewers, and players in constructing meaning with the story they are telling. The worlds they build must have coherent and internally consistent qualities that help explain why the events supported within them unfold in the ways they do. Understanding the fictional world supports the reader, viewer, or player in considering how and why characters take action in the expected and unexpected ways they do.

In this chapter, I discuss how a teacher and high school students enrolled in an elective English class used world building as a central concept to comprehend and compose science fiction and fantasy storyworlds. The teacher, Josh, designed the elective course Swords & Spaceships around a focal question: What considerations do fantasy and science fiction authors, directors, and videogame designers make when creating a fictional world? To engage students in the answering of this question, Josh led his students in the reading of novels, viewing of movies, and playing of videogames within the fantasy and science fiction genres. Concurrently, Josh and his students engaged in the Building Worlds Project, in which they used collaborative writing, digital cartography, and videogame design to make their own world-building considerations as authors and designers of an original storyworld. In particular, I draw from a larger study of Josh's elective class to consider how the videogame design of one of his students, Roger, serves as a compelling example of the possibilities and potential for engaging students in new ways of studying media and participating in media production within classrooms (Gauntlett, 2011; Jenkins, 2006; Ito, et al., 2010).

EVOLUTION OF THE BUILDING WORLDS PROJECT

Josh teaches at a rural high school situated five miles east of a small Midwestern city. The 716 students who attended the school at the time of the study are primarily white (96.7%). Fairly characteristic of small towns in the area, 34.7% of the high school students were economically disadvantaged. These demographics are also representative of the students enrolled in Josh's elective class. The high school had a recent history of earning the state's highest ranking designation by meeting all indicators and scoring 99.1 out of 120 points on the state's performance index.

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 29–52.

The school's English department developed a selection of 14 English elective classes (scheduled based on student enrollment) to address a school-wide need for more courses for upperclassmen. The five teachers in the English department designed these elective courses to match students' interests with their own and engage the students in reading and writing activity based on these shared interests. Examples of English electives frequently scheduled among the 14 offered include: Josh's Swords & Spaceships, Movies & Meaning, Performance Literature, Sports Literature, Women's Literature, and Gothic Literature. Initially, Josh had proposed to the English department that the electives be used to count toward the 11th and 12th grade graduation requirements for English. However, the English department reached the consensus that the elective classes were to be offered alongside, but not as substitutes for, the existing required English classes.

Josh's Swords & Spaceships class is grounded in his own passion and enthusiasm for fantasy and science fiction across multiple media, including literature, movies, videogames, and comic books/graphic novels. Most of the students who enroll in the class share this passion with Josh; though, among the students who enroll in his elective class, some have particular preferences between fantasy and science fiction and among the multiple media Josh takes up in his class. The shared passion for the genres and the media drives their study of the texts they consider and participation in the Building Worlds Project. Josh encourages his students to consider both the world building of the authors, moviemakers, and videogame designers and their own world building in the project to gain a better understanding of how stories are told within and across the different media with which they work.

The first year Josh offered the semester-long Swords & Spaceships class, the Building Worlds Project was an individual assignment, in which each of the 11 students enrolled in that first class created his or her own fantasy world in writing. The second year Josh offered the course, he drew on that initial experience with the project to change it into a collaborative, whole-class assignment housed on his class wiki. Josh made this change because he thought the project would not only be more sustainable across the semester if the 12 students enrolled were encouraged to share ideas and resources, but he also considered that the collaboration was potentially characteristic of the ways writers, moviemakers, and videogame designers work on fantasy or science fiction franchises. That second year, after reading about his teaching of the class in the local newspaper, I conducted a pilot study of Josh's class, in which I first met Josh and his student Roger (Rish & Caton, 2011).

The third year, in which I conducted the full study of Swords & Spaceships, the enrollment increased to 22 students. Josh adjusted the Building Worlds Project to allow four groups of students to each collaboratively build a distinct fantasy world. Roger enrolled in the class for a second time as an independent study and participated in one of the world-building groups, Förvanskaad. That third year, Josh also introduced the videogame design component of the project, in addition to the collaborative writing and digital cartography that were part of the project from the first year. Roger and his classmates considered the affordances and

constraints (Gibson, 1979; Kress, 2010) of novels, movies, and videogames, as well as the paratexts (Genette, 1997; Gray, 2010) that supplement them when rendering a storyworld. They not only considered what choices authors, moviemakers, and videogame designers make when working within a medium but also choices made when building a storyworld across media, e.g., novel adapted into a movie and/or videogame. John related in an interview,

> I really think there's a lot of value in crafting a story for a videogame. You have to think about all the things you think about when you're writing. You have to think about audience and how people will react to the situations you've set up. You have to think about the structure and pacing of the narrative. We are taking [these stories] we have created together, and we are adding to the body of knowledge in a different way. (Josh, interview, November 24, 2009)

For example, Josh's students considered how the written stories of Tolkien's *The Lord of the Rings* trilogy and related paratexts (e.g., novel cover art, map of Middle Earth) allowed for particular understandings of the storyworld through the material affordances of written text, fantasy art, and maps. They also considered how the material affordances of the movies and videogames allowed for supplementary and potentially new understandings of the storyworld.

These transmedia considerations of what different media afford and constrain based on how people create meaning with them, informed the students' design decisions of the fantasy worlds they were building in their groups. The students used a wiki to collaboratively write the history and geography of their worlds, descriptions of characters and creatures, and stories representative of fantasy fiction. The students incorporated found and created images into their writing to provide visual representations of characters, creatures, and objects. They used a free map making tool, AutoRealm, to create two dimensional maps of their world. AutoRealm is a vector-based map drawing software designed for use with role-playing games. The students also used the free trial version of the software Terragen to create photorealistic, three-dimensional landscapes of their world. Terragen is modeling software that creates film-quality renderings of landscapes. In the third offering of the course, the students used a free, 30-day trial version of RPG Maker XP to design a videogame demo of a part of their storyworld. RPG Maker XP is a videogame engine that allows you to create role-playing videogames similar to the original *Final Fantasy* video games. The students used RPG Maker XP to create maps to navigate, character interaction and dialogue to consider, and turn-based battle sequences to play. RPG Maker XP provides customizable videogame content, and more design content is available online for download, installation, and use. Though RPG Maker XP is representative of older, less advanced videogames, Josh asked the students to work with the affordances and constraints of the design engine to adapt or extend their storyworld.

In this chapter, I focus on the considerations Roger made when using the videogame design engine to extend his storyworld, Förvanskaad, in a videogame

demo he created for the Swords & Spaceships class. A demo is a sample version of a videogame that includes abbreviated, playable content (typically for marketing purposes). When discussing the considerations Roger made, I address some of his design decisions that were prompted in part by a videogame design document (Taylor, 2000) that Josh used with his students and prompted also by questions that Josh directly or indirectly asked his students to consider in the class. The design document and Josh's questions can be used by teachers to support their students' videogame design, using one of the many videogame design engines available, or to support their students in considering how videogames they play assist in the rendering of the storyworld of a particular transmedia franchise.

NEW MEDIA STUDIES

Before I turn to a discussion of Roger's videogame demo, I first want to make an initial argument for why teachers should consider incorporating the study (e.g., Ostenson, 2013) and/or design of videogames (e.g., Hodgson, n.d.) within a class project or assignment. The first part of this argument rests on the notion that the changes in the ways media are produced, distributed, and shared socially warrant rethinking the ways teachers engage youth in the study and composition of media, including videogames. Jenkins (2006) states that the new media landscape not only includes collisions among older forms of media (e.g., television) and newer forms of media (e.g., video recorded and distributed via mobile phones) but also includes new flows of content across multiple media platforms, as well as new interactions and relationships between producers and consumers of media.

In the Swords & Spaceships class, Josh used the *Forgotten Realms* franchise as an example to demonstrate the intentional distribution of content across the media of videogames and novels. He also showed students how to create their own content for the franchise using the videogame's design engine that accompanied *Neverwinter Nights*. Josh used this engine to create and share content for the fantasy worlds the students were building in his class, thus repurposing the affordances of the design engine to create new content for the Building Worlds Project. Josh was modeling for his students how to both consume and produce media using content and tools provided by a franchise.

Gauntlett (2011) argues that this new media landscape requires a new orientation for media studies. He makes this argument in regard to university media studies, but much of what he outlines is applicable to work with new media in middle and secondary school settings. Gauntlett (2011) makes the case for

- Moving away from 'expert' readings of media texts toward understanding how diverse audiences make meaning with media,
- Moving away from the celebration of 'classic' traditional media texts toward parallel considerations of independent and DIY media,
- Moving away from considering new digital and online media as auxiliary toward the recognition that new media has changed how people engage with all media, and

- Moving away from the idea that students should be taught how to 'read' the media toward considering them as "capable interpreters of media content" (Gauntlett, 2011, Outline of Media Studies 2.0, para. 6).

Much of the way Josh and his students foregrounded world building in the comprehending and composing of written texts, movies, and videogames represented the moves Gauntlett suggests for media studies. Josh did not privilege authoritative interpretations of the media they considered; the class considered classic fantasy, such as *The Lord of the Rings* and *A Wizard of Earthsea*, along with the media the students were creating; they considered the role of online and digital media in the comprehension and composing of media texts; and Josh positioned his students as authors and designers who considered transmedia franchises to inform the development of their own.

SHIFTS IN SOCIAL PRACTICES AND PARTICIPATION

The second part of this argument rests on the notion that our understanding of how adolescents engage with media in their daily lives has changed in ways that warrant the attention of teachers and a shift of the social practices that are supported within classrooms around media study and composition. Survey data (Lenhart, 2012; Lenhart, et al., 2007; Lenhart & Madden, 2005) and ethnographic research (e.g., Alvermann, 2002; 2010; Black, 2008; Chandler-Olcott & Mahar, 2003; Curwood, Magnifico, & Lammers, 2013; Hill & Vasudevan, 2008; Ito, et al., 2010; Kinloch, 2009; Mahiri, 2004; 2011; Vasudevan, Schultz, & Bateman, 2010) suggest that adolescents are not merely passive consumers of media but rather are actively engaged in the composition of media within and across a range of in-person and online social situations. Scholars in the fields of media studies and literacy studies have offered different, yet related, ways of conceptualizing how to make sense of how youth participate in social practices related to media and popular culture, as well as how to rethink classroom learning in response. Here in brief, I discuss what three of these conceptualizations, i.e., participatory culture (Jenkins, et al., 2009), affinity spaces (Curwood, Magnifico, & Lammers, 2013; Gee, 2004), and genres of participation (Ito, et al., 2010), have in common as they relate to Josh's Swords & Spaceships class in general and Roger's videogame design, specifically.

Characteristic of affinity spaces (Gee, 2004) and interest-driven genres of participation (Ito, et al., 2010), the videogame design for the Building Worlds Project in Josh's class was grounded in a shared passion for fantasy and science fiction. Of the 22 students enrolled in the third offering of the class, 21 of the students reported interest in fantasy and/or science fiction as the primary reason for enrolling in the class. However, students began the class with varying degrees of knowledge of and experiences with the genres and the media considered in the class. Characteristic of affinity spaces and participatory culture (Jenkins, et al., 2009), students who were new to the content received informal mentorships from students who had more expertise. Josh positioned himself as both an expert of particular content to be used

as a resource and as a novice of content with which he was not familiar in order considered as a lead learner. Josh explained,

> I have never made a completed game on this [engine], but for some reason that's not stopping me…I'm going to rely on the expertise of people like [AJ] and [Roger] who have done this kind of stuff before. I was encouraged that [AJ] was playing again with it yesterday…he was enthusiastic about it still, so I can rely on [AJ] and [Roger] to sort of distribute that expertise throughout the room. (Josh, interview, November 24, 2009)

Having taken the class the previous year, Roger positioned himself and was positioned by others as having both intensive and extensive knowledge of the genres, media, and the project. Roger not only took the lead in the design of a videogame demo for his world-building group, but he also served as a resource and a mentor to the other groups designing videogame demos.

These flexible positionings were supported by the social practices of the Swords & Spaceships class that blurred the lines between teacher and student, as knowledge and expertise were dispersed across the class. One student, Erika, remarked that the elective class "doesn't feel like school." This can be attributed in part to a social practice Ito, et al. (2010) refer to as "rewriting the rules" within the participation genre of "geeking out." Several of the students who took the lead for their world-building groups in the design of the videogames demonstrated the "intense commitment or engagement" that Ito, et al. (2010) state is characteristic of geeking out (p. 65). Roger was among these students who engaged in attempts to rewrite the rules of school in ways that supported their project development and videogame design. Among these revisions included attempts at explicitly challenging social norms of the classroom and technological restrictions of the computer lab. These attempts included student-led, flexible grouping to share processes and knowledge without formal arrangements or permission from Josh, repurposing the school computer software to circumvent network restrictions and trial software limits, and engaging in playful media consumption and production that contributed to their social affiliations and eventual project development. When the students strayed too far from the social norms of school (e.g., playfully vandalizing each other's wiki pages), Josh gently reminded the students of the limits of such rule revision.

Josh's class represents one specific, and significant, attempt at re-conceptualizing what media is, how it is studied, who students are as producers and consumers of media, and how institutions, such as school, can be adjusted to accommodate social practices related to transmedia world building and videogame design. Next, I turn to Roger's videogame demo in order to provide a meta-language that can be used to understand students' videogame design within transmedia storytelling. Most of these terms are from media studies and were not explicitly used by Josh in his teaching or by Roger in his videogame design and mentoring of other students. However, as Gauntlett (2011) suggests for new media studies, terms like these and others students invent can be used to support creative thinking about new media and creative making of new media.

WORLD BUILDING

Every piece of fiction creates a storyworld. However, the affordances and constraints of the media used to render the storyworld shape the extent to which a person can know the world of that story. Murray (1997) wrote with early enthusiasm for the promise of new media for rendering more immersive narrative microworlds. Webb and his colleagues (2012) have considered how virtual worlds designed around print literary texts can be leveraged as supplementary pedagogic tools to help students understand the storyworld of the text. In the case of novels, the storyworld is often explicitly explained in linear fashion as the story's plot unfolds, revealing details about the world's history, geography, cultures, and characters. In the case of movies, the storyworld is often revealed indirectly as characters interact with each other and their physical environment, allowing viewers to make inductions about the world that may or may not be directly confirmed by what appears on screen. In the case of videogames, the storyworld is often defined as the player takes action within the world, learning about its affordances, constraints, and internal rules.

However, in each of these cases the storyworld is inherently incomplete, as the reader, viewer, or player must fill in what is not explained with their own imagination using "a combination of knowledge of the real world and knowledge of genre conventions" (Juul, 2005, p. 123). A reader, viewer, or player's understanding of the storyworld can be supplemented by paratexts that can help orient them to the world or help them further explore the world (Gray, 2010; Mittell, 2012). These paratexts may include official and fan-created aides, such as maps, timelines, character guides, and fan wikis, that help to render the storyworld not only more comprehensible but also more immersive (Jenkins, 2006).

ADAPTATION AND EXTENSION

Media scholars outline what can often be a blurry distinction between the adaptation and extension of storyworlds across media platforms. On one hand, adaptations involve retelling a story in a new medium, e.g., adapting *The Hunger Games* from a novel into a movie. On the other hand, extensions involve telling an untold story or explaining a previously unknown aspect of the storyworld in a new medium, e.g., the videogame *Star Wars: The Force Unleashed*, which is set between the movies *Star Wars Episode III: The Revenge of the Sith* and *Star Wars Episode IV: A New Hope*. Both adaptations and extensions, when rendering the storyworld in a new medium, may contribute to a better understanding of the world (Jenkins, 2011).

In an effort to distinguish extension from adaptation, Jenkins (2006) uses the term transmedia storytelling to refer to a storyworld that

> Unfolds across multiple media platforms, with each new text making a distinctive and valuable contribution to the whole. In the ideal form of transmedia storytelling each medium does what it does best. (pp. 95-96)

For Jenkins and others (e.g., Long, 2007) working with this definition of transmedia storytelling, the focus is on what each text provides to the overall storyline of the world. If a new text in a new medium retells a story contained in another text and medium, they consider the new text to be a redundant adaptation that does not contribute something unique to the storyworld. Jenkins (2006) uses the example of the *Matrix* franchise as his archetype for transmedia storytelling. The Wachowskis intentionally distributed a story across three media platforms: anime, videogame, and feature film. Each of the texts have self-contained stories, but they also each contribute something unique to the storyline of the world that constitutes the *Matrix* franchise. Likewise, from *The Walking Dead* franchise, the character Michonne's backstory is not revealed in the television serial; rather, her backstory is revealed as a comic book first published within *Playboy* magazine and now freely available online.

Dena (2010) argues that when considering how stories are told across media platforms, we should not only consider the relationships among the texts as end-products but also consider how the reader, viewer, or player makes meaning in different ways with what each text affords. She argues that each "distinct articulation" (e.g., book, website, television show) requires a different way of interacting with the text. To traverse what Dena (2010) refers to as polymorphic fiction, people "move from flicking pages in a book to clicking on a keyboard to watching a television screen" (p. 186). Each way of interacting with the affordances and constraints of a text provides different possibilities for constructing meaning in order to comprehend and imagine the storyworld. An example of distinct articulations that blur the lines between adaptation and extension, the transmedia franchise *Defiance* is simultaneously being released as a television show and a massively multiplayer online videogame (MMO). The show and the videogame not only share a storyworld but also shape one another. What happens in the show shapes events in the game, and what happens in the game shapes events in the show. Each articulation not only both adapts and extends but also requires a different type of interaction. The viewer interacts with the show differently than the player interacts with the game.

Jenkins' (2006) definition of transmedia storytelling and Dena's (2010) definition of polymorphic fiction provide students with considerations to make when thinking about the relationship between a written story and a videogame within a storyworld they are building. The transmedia storytelling question asks students to consider if the end-product of their videogame will adapt something that is already written or extend the storyworld by telling an untold story. In the case of extension, the transmedia storytelling perspective asks students to consider the relationship between the written story and the videogame, e.g., offers backstory, provides new character perspective, maps the word (Jenkins, 2011).

The polymorphic fiction question asks students to consider what the most appropriate articulation is for each part of the storyworld. Dena (2010) states that world builders should ask themselves, "Shall I express this part of my fictional world with a novel, computer game, painting, or film?" (p. 187). For example, a

story involving a character's internal conflict may be best told in articulations that afford the character's thoughts to be shared with the audience, e.g., written story. Alternatively, a story involving external conflict with a hostile enemy may be best told in articulations that afford the character to make decisions of whether to fight or flee (e.g., videogame).

ROGER'S VIDEOGAME DEMO

The videogame demo that Roger created in Josh's Swords & Spaceships class has two major components. The first is an elaborate cut scene, in which the game player is introduced to the central conflict of the Förvanskaad storyworld, and the second is gameplay in which the player is introduced to the young mage Nemveret. When these two components are considered in relationship to the written stories, descriptions, and histories posted to the project wiki, Roger's videogame demo can be considered to be two extensions to his storyworld.

Roger's written histories provide two time anchors relevant to the videogame. The first is the year 1023 when the evil mages known as Svar rose to power; the second is the year 1989 when the most powerful of the Svar, Mondalb, kills the rest of the evil mages, and Nemveret first communicates with the god Své (see Figure 1).

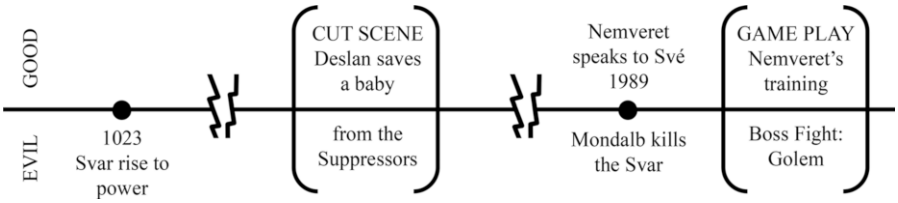

Figure 1. Roger's Förvanskaad Timeline.

The cut scene in the videogame, which takes place sometime between 1023 and 1989 (see Figure 1), introduces Deslan and a group of rebel mages who are protecting a female baby from the Svar and Mondalb. When one of the Svar's Suppressors arrives to steal the baby whose aura indicates her potential for magic, Deslan defeats the Suppressor and assures the baby's parents that she will be protected and well cared for (see Figure 2). Roger's cut scene provides an entry point to the backstory of the conflict between the good and evil mages. In the cut scene, Roger also provides foreshadowing for events in the future. He introduces the central deity of Förvanskaad, Své, though a quote from a religious text, The Maker's Wisdom:

> Man shall govern himself, and I shall be no king unto him. He shall have free will to build or destroy the world I leave him. But should a man become tantamount to a god, and destroy the freedom of will I have given to all other men, then will I step down and put freedom back into the hands in which I have placed it.

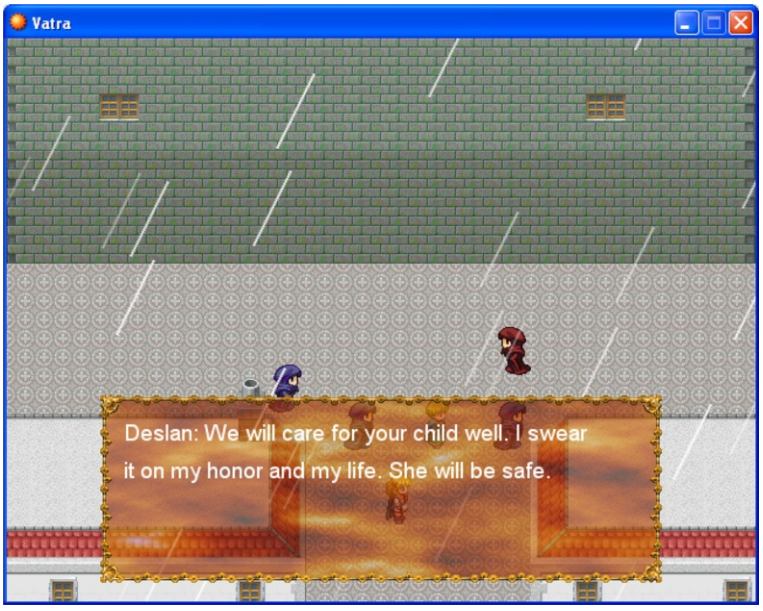

Figure 2. Deslan promises to care for the child.

Though not explicitly explained, the player is led to believe that this man is the evil mage Mondalb, and Své is forced to step out of his role as the divine watchmaker and intervene in the affairs of man. The player is also left wondering who the female baby is and what role she will play in the future.

After a transition using the title screen of the videogame demo, the player is now in control of a sprite named Nemveret on an instance map. Nemveret is in a cave to learn how to fight and use his magic. He receives instructions from a voice that is later revealed to be Své. The gameplay both orients the player to Nemveret and trains both the player and the character in the mechanics of the turn-based fighting of the roleplaying videogame. Nemveret learns to fight low-level cave rats, collects healing mushrooms, and obtains a better weapon. This training prepares him for a boss fight with a golem. Nemveret's reward for defeating the golem is learning that Své is the voice behind his training and receiving new Astral magic powers.

TRANSMEDIA STORYTELLING

From a transmedia storytelling perspective, Roger's videogame demo provides unique contributions to the storyworld that makes up Förvanskaad. Both the cut scene and the gameplay are additive extensions that both explicitly provide new details about the storyworld and provide new openings for the reader and game player to speculate about an impending battle between Nemveret and Mondalb.

Many speculative questions go unanswered about the role of Deslan in the life of the female baby, who may be grown by the time Nemveret is receiving his training and promises to have strong magical powers worth protecting. Drawing on a transmedia storytelling perspective, Long (2007) uses the term negative capability (from the poet John Keats) to describe "the art of building strategic gaps into a narrative to evoke a delicious sense of 'uncertainty, Mystery, or doubt' in the audience" (p. 53). Roger's videogame demo leverages negative capability to send the game player back to the writing that makes up the storyworld of Förvanskaad in search of unanswered questions. These strategic gaps work to render a more immersive storyworld as the reader and game player are invited to exercise what Murray (1997) refers to as "active creation of belief" (p. 111).

POLYMORPHIC FICTION

From a polymorphic fiction perspective, the cut scene and the gameplay are distinct articulations that provide the game player with an understanding of the storyworld by leveraging affordances particular to the medium of the role-playing game. The cut scene operates like a short animation, as the player reads character dialogue and watches character interaction. The player is oriented to the magical abilities of both an evil Suppressor, who defeats a good mage, and Deslan, who defeats the Suppressor (see Figure 3).

Figure 3. Deslan defeats a Suppressor.

The sound and graphic effects Roger used in the fight between Deslan and the Suppressor demonstrate what their magic abilities look like and ultimately establish Deslan as more powerful than the Suppressor that the Svar had sent to collect the baby. Arguably, the cut scene provides the player with a more explicit representation of what the use of magic looks like within Förvanskaad than what a reader would come to understand through a written description. The cut scene is an appropriate articulation for establishing Deslan as superior to the Suppressors.

The gameplay helps to further establish the relationship between Nemveret and Své for the player. In Roger's written stories of Nemveret, Své began to communicate with Nemveret without revealing his identity. The gameplay establishes what Kinder (1991) refers to as transmedia intertextuality by orienting the character Nemveret and the player to receiving direct instructions from the Voice. As a form of dramatic irony, the player who read Roger's written stories will suspect that the Voice is in fact Své. The player who has not read Roger's written stories will learn of Své's identity at the same time Nemveret does within the game. The affordances of playing the videogame and following the directions of the Voice help the player understand Nemveret's confusion and frustration.

At one point during the gameplay, Nemveret questions why he is navigating the cave and killing rats. From the character's perspective, Nemveret is wondering where he is going and what the Voice has in store for him as he receives his training. From the player's perspective, the player may be wondering what all of the rat killing and mushroom collecting is leading to. The player may perceive this portion of the videogame demo to be overly repetitive and characteristic of what players of role-playing videogames refer to as grinding for the sake of leveling the character. From the videogame critic's perspective, the critic may be annoyed by the use of the rat-killing trope (which had been discussed in class as cliché) to level the character and orient the player to the videogame mechanics. Roger addresses the character's uncertainty, the player's impatience, and the critic's concerns by strategically placing a conversation between the Voice and Nemveret, in which the Voice tells Nemveret (and the player) to stop complaining and that an explanation is forthcoming (see Figure 4).

The words "stop complaining" serve as advice for the character within the game; acknowledgement of potential frustration the player may be experiencing by breaking the fourth wall (between character and player); and a wink toward critics with a move known as *lampshade hanging* (self-deprecatingly pointing out a flaw in anticipation of criticism), which breaks the fifth wall (between videogame designer and critic) (Hunter & Lichtenfels, 2005). By leveraging the affordances of the videogame, Roger is able to allow the player to discover Své's true identity as an accomplishment for the character and the player. This revelation takes on a different significance for the player compared to the reader if Roger had written the story of Nemveret leaning Své's identity and receiving the gift of Astral magic. Roger's videogame demo is not only significant because it extends the storyworld but also because it is a unique articulation that affords the player to construct meaning in a different way than with the writing that partially makes up Förvanskaad.

Figure 4. Své encourages Nemveret to continue training.

CONTINUITY WITHIN AND ACROSS ARTICULATIONS

As a design consideration, Josh asked his students to maintain storyline continuity within and across the articulations of their storyworld. He asked them to work together within the world-building groups to collaboratively write and read for continuity. Josh also asked the students to maintain continuity across media when designing their videogames. He introduced the organizing principle of continuity by explaining how superhero franchises maintain character and storyline continuity both within the medium of comic books but also across the media of animation, feature films, and videogames. Josh explained that a continuity editor for a superhero franchise sets out to maintain consistency in the character's storyline and physical depiction. Jenkins (2011) uses the term radical intertextuality to refer to within medium continuity and the term transmedia storytelling to refer to across medium continuity. Both are important to maintain a comprehensible storyworld that is explored from multiple perspectives within and across media. When a continuity error is introduced, the active creation of belief (Murray, 1997) is disrupted.

Josh considered continuity errors not as problems to avoid but rather as opportunities for students to work together to render their storyworlds in more consistent and coordinated ways. The early assignments of the Building Worlds projects are designed to lay the groundwork for the stories to be told within the storyworld. Josh asked the students to define their fantasy world's history, geography,

and cultures with written descriptions and multimodal depictions using maps, drawings, and other found and created images. Dena (2009) explains that franchises often rely on an official artifact and/or people to serve as a "bible" for the purpose of maintaining continuity. Dena explains that television serials often use a series bible, videogame design teams often use a design document (similar to the one Josh used with this students), and transmedia franchises often use a world or universe guide to maintain visual and storyline continuity.

MYTHOS, TOPOS, AND ETHOS

When considering what should be defined to establish and maintain continuity, Klastrup and Tosca's (2004) identify three core features that they consider to be essential understandings shared by designers and the audience in order to establish what they call a transmedial world. The first is the mythos which consists of "the establishing conflicts and battles of the world" that provide "the central knowledge one needs to have in order *to interact with or interpret events in the world* successfully" (p. 412). The second is topos which consists of "the setting of the world in a specific historical period and detailed geography" that informs "*what is to be expected from the physics of and navigation in the world"* (p. 412). The third is the ethos which consists of "the explicit and implicit ethics of the word and (moral) codex of behaviour" used to understand how characters are supposed to behave in the world (p. 412). Roger and his world-building partner AJ established these core features in the process of laying the groundwork for the writing of stories and the design of their videogame demos.

Mythos. The mythos of Förvanskaad is established in a history of the world beginning with Své's creation of the universe. In the history, Roger and AJ use major events in the storyworld to define epochs (see Figure 5).

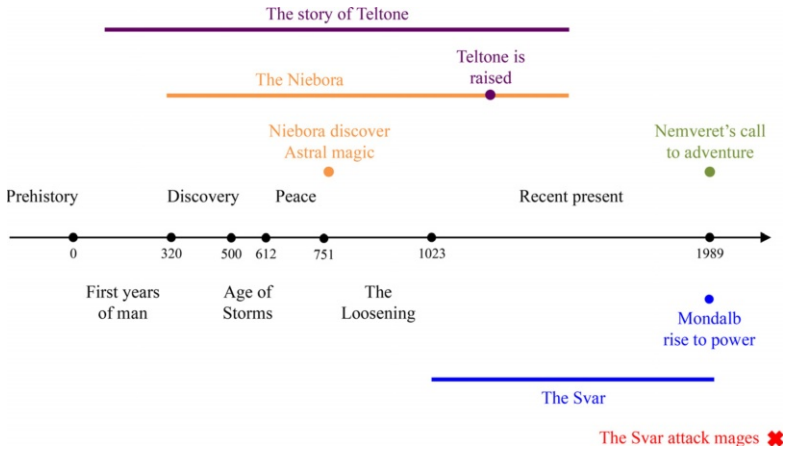

Figure 5. Storylines in Förvanskaad.

After Své created man and gave them stewardship over the land with the help of magic, Své departed as a divine watchmaker to allow mankind to determine its own fate. As man developed in these early years (0 – 320 Y.E.[1]), distinct cultures began to emerge, some relying on tools and weapons and others relying on magic. The second epoch of man (321 – 500 Y.E.) was marked by the Niebora, the most advanced magic users, who taught other cultures how to use magic to defend themselves from reptilian predators that roamed the land. However, the unintended consequences of using Sky magic altered atmospheric conditions ushering in the Age of Storms (501 – 612 Y.E.), which drove the entire population of Förvanskaad underground into a system of caves. In the year 613 Y.E., the storms began to recede leaving the survivors to use Water magic to drain the flooded lands of Förvanskaad in an epoch of relative peace. In the year 752 Y.E., the Niebora discovered the ultimate power of the stars, Astral magic. An elite society of the most powerful mages, known as the Svar, used Astral magic for peaceful purposes. However, by the end of the epoch known as The Loosening (752 – 1023 Y.E.), the Svar began to become corrupt by the ultimate power afforded by Astral magic.

Through this history, Roger and AJ establish the mythos of Förvanskaad. Man gradually discovers how to use different forms of magic for peaceful purposes, until the discovery of Astral magic begins to corrupt the most powerful of the mages. Roger and AJ foreshadow the return of Své who is reported in a religious text to have promised only to return if a man attempts to wield the power of a god. The history renders the storyworld an otherwise peaceful place (when the reptile predators are not attacking) that is soon to be corrupted by the tyranny of the Svar. In a separate story, the reader learns that one of the Svar, Mondalb, becomes more powerful than the other Svar, kills the other nine, and declares himself god-emperor of Vatra, the mainland of Förvanskaad. Mondalb's rise to power promises to herald the foretold return of Své and the need for a hero (Nemveret) to receive what Campbell (2008) referred to as the call to adventure.

Topos. Roger and AJ also establish the topos of Förvanskaad with written descriptions of the regions and maps created with AutoRealm (see Figure 6) and landscapes created with Terragen. The maps and landscapes help establish Förvanskaad as a fantasy storyworld, wherein humans must rely on magic to protect them from the elements and predators. Mention of the discovery of bronze weapons and tools in the first epoch of man provides the reader with an approximate understanding that even though magic is used, conditions are comparable to our own Bronze Age. The story of Teltone provides an indication of the physics of this storyworld. Teltone is a floating island that was raised from the earth with the help of wind runes engraved on a giant that lifted the land into the sky. Figure 6 features the floating island; though, its exact location varies at any given time.

Ethos. The ethos of Förvanskaad is made explicit by the juxtaposition of the Svar from the rest of the inhabitants of the storyworld, most notably the Niebora. The Svar

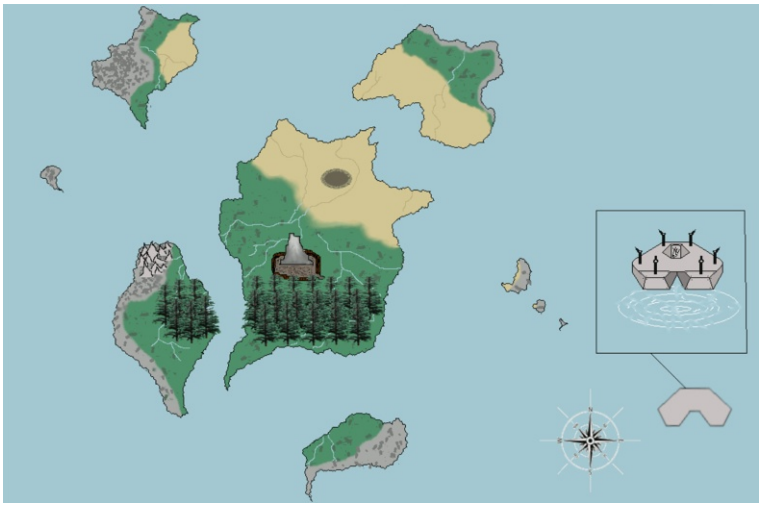

Figure 6. Map of Förvanskaad.

have fallen victims to the corruption of power as they begin to use Astral magic. The rest of the inhabitants of Förvanskaad are forced to endure the tyranny of the Svar, until evil is consolidated into a single character, Mondalb, and Své is reintroduced as intervening in the affairs of man. However, a story AJ wrote disrupted the simple juxtaposition of good versus evil. AJ described the Niebora as selfish, deceptive, and guilty of betrayal. Though victims of the first the Svar's tyranny, the reader is led to believe that the Niebora are not completely innocent and altruistic. However, Nemveret was born to parents of the Kadud tribe, a people that are only described by their lack of knowledge of magic and technology. Nemveret is an unlikely hero when he begins to hear the voice of Své.

NEGOTIATING CONTINUITY CONFLICTS

As Roger and AJ established the essential characteristics of Forvanskaad, they often had to negotiate continuity conflicts within and across articulations. The historical timeline served as the bible for the storyworld in an effort to maintain historic continuity. For the most part, they were successful at negotiating continuity conflicts within the written stories, histories, and descriptions. AJ's story of Teltone intersected with Roger's historical account of the Niebora on the timeline in a way that maintained continuity; though, AJ characterized the Niebora in a different light than Roger did. An example of an unresolved continuity conflict within the written stories is a story AJ wrote titled "Of the Derelicts," in which the Svar attack a band of mages in the year 2000 Y.E. (see Figure 5). According to a description of Vatra

written by Roger, Mondalb killed the rest of the Svar in 1989 Y.E. Neither of these events appear on the timeline that serves as the storyworld's bible. Therefore, this continuity conflict may represent unfinished design work as Roger and AJ turned their attention to their videogame design.

In regard to Roger's videogame demo, he maintained storyline continuity across articulations as the videogame picks up after Nemveret has received the call to adventure by the voice of Své. When the player is introduced to Nemveret, the player meets a reluctant hero who is questioning why he is in the cave in the first place. This is characteristic of the second stage of Campbell's (2008) monomyth, refusal of the call to adventure, which at the beginning of the game, Nemveret expresses doubt and confusion and requires encouragement by Své (see Figure 7). To progress in the game, Nemveret must overcome his uncertainty and doubt and accept the call to adventure, which he does gradually by first fighting cave rats, then a group of golems, and at the end the boss golem. Though these events are not explained in the storyworld bible, they nonetheless maintain continuity with the written story of Nemveret's call to adventure.

Figure 7. Nemveret's refusal of the call.

EMPTY NOUNS AND INTRACOMPOSITIONAL TRANSMEDIA

During the project, Josh asked his students to read a short, open letter written by Ursula K. Le Guin (2005) on plausibility in fantasy. In the letter, Ursula K. Le Guin

makes a distinction between the way she has built her storyworld of Earthsea and the way J.R.R. Tolkien built the storyworld of Middle Earth. The distinction she makes explains two approaches to world building. The first is generally referred to as top down (or outside in) wherein the mythos, topos, and ethos for the entire storyworld are well established before a story is ever told. Tolkien takes up this approach by defining the history, geography, and languages of Middle Earth before writing the stories that make up *The Lord of the Rings*. The second is referred to as bottom up (or inside out) wherein the mythos, topos, and ethos are only established for a small part of the world, and the rest of the world is rendered as the storylines unfold. Le Guin (2005) takes up this second approach; she writes

> But in my fantasies, I have often mentioned events or places which I didn't yet know anything about—for example, some of the later exploits of Ged mentioned early in *A Wizard of Earthsea*. These were, when I wrote them, merely words—"empty" nouns. I knew that if my story took me to them, I would find out who and what they were. And this indeed happened… In the same way, I drew the map of Earthsea at the very beginning, but I didn't know anything about each island till I "went to" it.

For Le Guin, the storyworld is defined as the characters discover each aspect of the world. Josh encouraged his students to take up both approaches. He asked his students to define what they knew about their storyworld and allow their storylines to lead them to new discoveries.

Among these potential discoveries, Josh encouraged his students to pursue empty nouns. He asked his students to identify an artifact, weapon, book, scroll, etc. that they had mentioned briefly and had not fully explained elsewhere in their storyworld. He then asked them to provide a detailed explanation of the empty nouns. In the case of written texts, such as books and scrolls, Josh challenged his students to actually write the contents of the books and scrolls. To demonstrate this, Josh shared *The Elder Scrolls* series of role-playing videogames with his students. In the game, books that the player discovers in-game are not empty nouns; rather, they are actually full-length books of myths, legends, histories, biographies, records, fiction, jokes, songs, poems, plays, journals, research, etc.[2] Roger and AJ took up this challenge by writing descriptions of the weapons used by the Niebora to defend themselves from the Svar and reptilian predators. Some of the students in other world-building groups wrote histories, poetry, and songs contained within their storyworlds.

Dena (2009) uses the terms intercompositional and intracompositional to distinguish between transmedia relationships across and within unique articulations. Jenkins (2006; 2011) and Long (2007) are concerned with intercompositional transmedia, or the relationships among unique articulations of a storyline, e.g., book, movie, videogame. However, when a full-length book can be read within a single articulation, as with the books within *The Elder Scrolls* role-playing videogames, the term intracompositional transmedia becomes necessary to describe the relationship

between the in-game book and the storyworld established by the other affordances of the videogame. Dena (2009) uses the example of Steward and Weisman's (2006) novel *Cathy's Book: If Found Call 650-266-8233* that contains items a reader would expect to find in a diary, e.g., removable photos, napkins with phone numbers, etc., to further define intracompositional transmedia. The book and all of the artifacts contained within it make up the composition.

Roger introduced an empty noun at the end of his videogame demo that was left unexplained in the rest of his storyworld. After Nemveret defeats the boss golem, he is rewarded with a tome of Astral magic by Své (See Figure 8). Characteristic of the third stage of Campbell's (2008) monomyth, Nemveret receives a supernatural aid that we assume he will use later to fight Mondalb. Though Roger details in writing how Astral magic works (makes oneself invisible and employs pure energy as a weapon) and does not work (very poorly if not under an open sky), he does not give the reader any indication of how magic is learned in the storyworld. In the game, the player learns that Astral magic can be learned by obtaining the corresponding tome. The lack of details about the tomes may be Roger's intentional use of negative capability (Long, 2007) to entice the player to search for more tomes, or Roger may be relying on the player's familiarity with the genre of fantasy role-playing videogames to understand the relationship between tomes and learning magic (Juul, 2005).

Figure 8. Boss golem guarding the tome of Astral magic.

PARTICIPATORY ENGAGEMENT IN NEW MEDIA

When Josh invited the Swords & Spaceships students to design videogames for the Building Worlds Project, he had two goals in mind. On one hand, he wanted his students to consider how stories are told differently within and across media by considering the choices authors, moviemakers, and videogame designers make. On the other hand, he wanted to engage his students in telling stories across media, so that they could make their own design choices informed by the media they considered in class. Josh helped his students accomplish these goals by leading them in class conversations about fantasy and science fiction novels, movies, and videogames and by engaging them in the Building Worlds Project that included videogame design. Josh explained that he thought this approach was productive for students to consider

> How videogames handle telling fantasy and science fiction stories given that videogames are so bound up with those genres. I think it's a good part of our curriculum to talk about that. (Josh, interview, December 7, 2009)

Josh was less concerned with his students coming up with a definitive answer to the question of how videogames tell stories within the specific games they considered. Rather, Josh's two-fold goals of comprehending and composing transmedia stories were comparable to what Jenkins, et al. (2009) refer to as *transmedia navigation*, which is the consideration of

> how stories change as they move across different contexts of production and reception, as [students] give consideration to the affordances and conventions of different media, and as they learn to create using a grange of different media tools. (p. 90)

The Building Worlds Project provided an opportunity for students to experiment and play with different media, working with their affordances and constraints, and to take up the role of transmedia storyteller.

However, not all of these experiments resulted in media products with which the students were pleased. Though Roger represents a student who successfully created a videogame demo, other students like AJ were frustrated by the constraints of RPG Maker XP limiting his videogame design to what he considered to be an anachronistic gameplay experience involving navigating maps with a sprite and engaging in turn-based battle and dialogue sequences. For Josh, the process of experimenting and playing with the media was more important for learning about transmedia storytelling that the actual games the students created. Josh explained when discussing how he was going to assess the videogame component of the project,

> What I'm really going to be interested in is the post analysis of [the videogame design]. The videogames, whether they're good or not is not really all that

> important to me. [Students can] discuss what are the differences between creating a text-based story, even when you are collaborating and there's multiple sources you are drawing from, compared to a [videogame] story when the reader is an active participant. So, I'm really interested in their thoughts on that. I'm not sure what they are going to say. I'm not sure what I think are the differences as I'm working through my own game on my own. What are the challenges and rewards for creating that kind of narrative?
>
> I think it will be a meta type of thing looking at the way they tell stories, in terms of the traditional narrative story on the wiki and the way stories are told in the games. Maybe even doing some comparison, [such as] I found it easier to tell my story in this format but maybe that when someone played my game, they played it in a different way than I had imagined. Or maybe they could write an FAQ or a walk though of each other's games. (Josh, interview, December 7, 2009)

By Josh prioritizing experimentation and play with the videogame design engine over any expected outcomes for the videogame demos, he encouraged low-stakes problem solving, risk taking, and learning through trial and error. In many ways, Josh's emphasis on play shared characteristics of

- participatory culture (Jenkins, et al., 2009), in which play is considered to be an active mode of engagement that supports problem solving and roles that encourage strong identifications and emotional investments;
- interest-driven genres of participation (Ito, et. al., 2010), in which "experimenting and play are central practices for young people messing around with new media" (p. 58), often supported by affinity spaces like the ones Gee (2004) and Curwood, Magnifico, and Lammers (2013) describe; and
- third space (Wolhwend, 2008), a hybrid of the official space of school and the unofficial space of peer culture, in which students use play "to re-imagine power relations by assuming pretend identities and to explore literacy practices and materials in a risk-free zone" (p. 134).

All to say, the way Josh and his students engaged in participatory new media study of transmedia storytelling in the Swords & Spaceships class was just as important, if not more so, than the fantasy worlds they built with writing, digital cartography, and videogame design. Josh's students took up the roles of writers and designers in collaborative world-building groups and made many of the same considerations that writers, moviemakers, and videogame designers make when working with a transmedia franchise.

REMIXING CLASSROOM PROJECTS WITH NEW MEDIA STUDIES

Josh's elective English course, Swords & Spaceships, is a special case. He and the other English teachers in his high school have a great deal of administrative

support to offer and experiment with elective English classes like this one. Therefore, conducting a semester-long Building Worlds Project most likely will not be possible in other classes without this support, freedom, and availability of the school's computer lab. However, participating in the new media study of transmedia storytelling and the designing of videogames could supplement existing projects and curricular units already in place.

The following is a list of examples of how teachers may take up the new media studies and participatory social practices related to transmedia storytelling by positioning students as:

- Transmedia critics who consider the affordances and constraints of different media that help to render a storyworld;
- Readers, viewers, and players who co-create an inherently incomplete storyworld by filling in gaps created by negative capability with their own understandings based on the story and their knowledge of the genre and/or medium;
- New media scholars who consider the extent to which an articulation of the storyworld adapts existing articulations (e.g., movie adaptation) or extends the storyworld in some way (e.g., webisodes);
- New media scholars who consider the role of paratexts in contributing to a storyworld and how a single articulation (e.g., feature film) can alter and/or define the appearance and purpose of the paratexts (e.g., novel cover art with feature film actors);
- Creative directors of a transmedia franchise who decide what is the most appropriate articulation for rendering part of a storyworld;
- Ethnographers who consider the multiple trajectories people take across media when navigating a transmedia franchise;
- Videogame designers who consider the significance and purpose of dramatic irony, wherein the player knows more than the character, for advancing the plot and the gameplay;
- Videogame critics who consider the significance and purpose of characters breaking the fourth wall and directly addressing the player;
- Critical videogame modders who consider how to modify existing games with lampshade hanging and redesign (e.g., *Sorry Mario Bros!*) that acknowledges cliché and/or problematic tropes (e.g., damsel in distress); and
- Fanfiction authors/designers who take up an empty noun in a written story, movie, or videogame and consider how to develop the empty noun as intracompositional transmedia (e.g., written book within a videogame).

My hope is that this brief description of Josh's Swords & Spaceships class and the detailed consideration of Roger's videogame demo in relationship to participatory approaches to new media studies will provide teachers with some tools and some examples for positioning students as agentive, critical consumers and producers of new media.

NOTES

[1] Y.E. is an abbreviation for Years of Existence

[2] For a complete list of books in *The Elder Scrolls* series, see http://www.imperial-library.info

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JEN SCOTT CURWOOD

3. READER, WRITER, GAMER

Online Role-Playing Games as Literary Response

INTRODUCTION

Today's youth are increasingly using online spaces to collaborate, communicate, and innovate. In fact, research by the Pew Internet & American Life Project indicates that 80% of adolescents use online social network sites, 38% share original creative work online, and 21% remix their own creative works, inspired by others' words and images (Lenhart, Ling, Campbell, & Purcell, 2010; Lenhart, Madden, Smith, Purcell, Zickuhr, & Rainie, 2011). This is particularly evident within online fan-based affinity spaces, where young adults come together around a shared interest. These fans see the Internet as a tool to share their creative work that is often inspired by books, films, and games.

Over the past three years, I have conducted research on *The Hunger Games* affinity space to gain insight into how fan culture can support the literacy practices inherent in writing stories, creating art, producing songs, and playing games. Drawing on traditions of online ethnographic research, this study seeks to understand the culture of affinity spaces (Gee, 2004), which are the physical, virtual, or blended spaces where young people interact around a common interest. There are three types of *portals*, or entry points, to affinity spaces (Magnifico, Lammers, & Curwood, 2013): (1) root websites specific to *The Hunger Games* affinity space, including HungerGamesRPG.com and HungerGamesTrilogy.net; (2) archives of creative artifacts that include transformative works from multiple affinity spaces, such as FanFiction.net and DeviantArt.com; and (3) social media tools that promote interaction within and beyond the affinity space, including Twitter, Facebook, and Tumblr. Within the affinity space, participants move across and through portals as they engage with the novels, films, and other fan-created work.

In this chapter, I analyze how Georgia, an Australian teen, engages in the *Hunger Games* affinity space, particularly how she uses Tumblr as part of a literature-based online role-playing game. I ask: How do role-playing games promote engagement with literature? Within a role-playing game (RPG), players assume the identity of a character in a fictional setting. The core of the game is guided by rules, and players typically have full control of decision making for their characters (Tychsen, Hitchens, Brolund, & Kavakli, 2006). There are many

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 53–66.

forms of role-playing games, including computer role-playing games, massively multiplayer online role-playing games, pen-and-paper role-playing games, and live action role-playing games. While the RPG in this study takes place online, it does not involve a game engine nor does it require players to complete quests or engage in synchronous play, such as with popular MMORPGs. Instead, Tumblr's microblogging platform allows players to write dialogue and share multimedia, which can occur asynchronously.

Drawing on the concepts of Multiliteracies and affinity spaces and using the Designs of Meaning as an analytical tool, I begin by considering how Georgia's developing knowledge of game design facilitated her participation in Tumblr-based role-playing games as multiple characters from the *Hunger Games* novels. I then analyze how her offline work on character development shaped her understanding of the characters' experiences, motivations, and beliefs. Finally, I examine how her literary knowledge of *The Hunger Games* enabled her participation in the role-playing games. In closing, I discuss how teachers can draw on Multiliteracies in order to promote young adults' close reading of literary texts as well as their creative and multimodal writing practices.

MULTILITERACIES AND ONLINE AFFINITY SPACES

The New London Group (1996) argued that in a culturally and linguistically diverse world where multiple modes of expression and diverse forms of textual representation are available, a common framework is increasingly important. As a result, they proposed a metalanguage of Multiliteracies based on the idea of Design, which could "identify either the organizational structure of products or the process of designing" (New London Group, 1996, p. 73-74). By applying the concept of Design to any meaning making activity, they identified three key elements: Available Designs, Designing, and The Redesigned. The New London Group (1996) stated, "Together these three elements emphasize the fact that meaning making is an active and dynamic process, and not something governed by static rules" (p. 74). The process of Designing, then, involves the transformation of Available Designs in order to create and articulate meaning. Consequently, the New London Group emphasized the socially situated nature of meaning making by locating this activity within a metalanguage of Multiliteracies.

Multiliteracies are nonlinear, multimodal, and firmly rooted in social practices (Kalantzis & Cope, 2000). While these practices may occur within school, young adults' meaning making practices extend "beyond the classroom walls and into the borderless world of Internet resources" (Luke, 2000, p. 82). Consequently, Multiliteracies can be traced within and across affinity spaces. They contain multiple portals that offer diverse interest-driven trajectories, opportunities to learn with others, and paths toward becoming an authentic participant (Squire, 2011). Youth draw on a variety of modes and semiotic resources as they engage with their common passion in online affinity spaces (Curwood, 2013a). While the field continues to theorize

affinity spaces (Hayes & Duncan, 2012), further research is needed to shed light on the nature of literacy development and social interaction within online contexts.

Recently, several colleagues and I have argued that an update to Gee's (2004) initial categorization of online affinity spaces was necessary (Lammers, Curwood, & Magnifico, 2012; Magnifico, Lammers, & Curwood, 2013). We posited that contemporary affinity spaces have nine defining features: 1) A common endeavor is primary; 2) Participation is self-directed, multi-faceted, and dynamic; 3) Portals are often multimodal; 4) Affinity spaces provide a passionate, public audience for content; 5) Socializing plays an important role in affinity space participation; 6) Leadership roles vary within and among portals; 7) Knowledge is distributed across the entire affinity space; 8) Many portals place a high value on cataloguing content and documenting practices; and 9) Affinity spaces encompass a variety of media-specific and social networking portals.

Online affinity spaces offer fans a way to come together around a shared interest, across time and space. Many fan-based affinity spaces either emerge from games or include games as a part of the fandom. Prior scholarship has indicated that games support complex forms of learning that include collaborative inquiry, the development of situated identities, and participation in a common discourse (Gee, 2003; Squire, 2006; Steinkuehler, 2006). Moreover, games often involve complex literacy practices (Black & Steinkuehler, 2009). By conceptualizing game design, social networking, and creative writing as Multiliteracies, this chapter seeks to add to this growing body of research.

METHODS

Research Context

To understand the literacy practices inherent in affinity spaces, I have taken a sociocultural and situated approach by observing and participating in the space associated with *The Hunger Games*, a young adult trilogy. Since 2011, I have examined fan practices in various portals where young people write fan fiction, create art, produce videos, compose music, and design games (Curwood, 2013a; Curwood, 2013b; Curwood, Magnifico, & Lammers, 2013; Lammers, Magnifico, & Curwood, 2014). Role-playing games, in particular, offer youth an opportunity to deepen their content knowledge, participate in social interactions, and develop their creative writing skills.

The Hunger Games, Catching Fire, and *Mockingjay* are part of a growing number of dystopian novels written for young adults. From 2008 to 2012, Suzanne Collins' trilogy sold over 50 million copies worldwide. Set in a post-apocalyptic world, Panem includes an affluent capitol, surrounded by thirteen impoverished districts. In the Dark Days, the districts rose up against the capitol. To remind the citizens of Panem that such a revolution must never happen again, they are subjected to the Hunger Games each year. The protagonist, 16-year-old Katniss Everdeen, becomes a tribute within the Hunger

Games, where she has to fight for her survival. Not only must she struggle against the Gamemakers who control the treacherous environment, she must also be ready to kill the Career tributes who have trained their entire lives for the Hunger Games.

As part of my wider study of the *Hunger Games* affinity space, I have found that the multiple portals offer young adults a way to comprehend, analyze, and critique the novels and films. More than that, they create a valuable space for fans to transform the plot, characters, and themes. Whether they choose to be active participants, designers, moderators, or lurkers, young adults have the opportunity to develop online identities as readers, writers, and gamers. For instance, 13-year-old Jack is actively involved in online discussion boards related to the *Hunger Games*; here, he critically analyzes the novels, collaboratively constructs a character index, and discusses global issues (Curwood, 2013a). Meanwhile, 16-year-old Cassie writes news stories and reviews books on a popular portal; she also acts in fan videos available on YouTube and manages a Twitter account with over 50,000 followers (Curwood, Magnifico, & Lammers, 2013). Affinity spaces allow young adults multiple pathways for participation; consequently, it also encourages them to cultivate diverse literacy practices and engage with an authentic audience.

Data Collection and Analysis

Data collection began with *systematic observation* to gain insight into the dynamics of communication and semiotic production in the online affinity space. I conducted multiple *interviews* with thirty focal participants via Skype, email, and private messages. Participants ranged in age from 11 to 17, and they represented a variety of countries, including the United States, the United Kingdom, Australia, and Canada. These interviews sought information about the factors that shaped their literacy practices, participation in online affinity spaces, and engagement with *The Hunger Games* novels. I also collected *artifacts,* including discussion board rules, online profiles, and creative work.

Drawing on descriptive case analysis (Yin, 2003), I created case studies from focal participants in *The Hunger Games* affinity space. Using a thematic analysis framework (Boyatzis, 1998; Saldaña, 2009), I performed several repeated rounds of qualitative coding, gradually consolidating and refining the participants' discussions of their literacy practices into several broad patterns. To understand the relationship between Multiliteracies and affinity spaces, I drew on the New London Group's (1996) Designs of Meaning, which represents "the 'what' of literacy pedagogy" (p. 11). Consequently, it offered a way to conceptualize focal participants' literacy practices related to three elements: Available Designs, Designing, and The Redesigned.

In this paper, the Designs of Meaning concept is used as an analytical tool to understand the process of meaning making. Within *The Hunger Games* affinity space, there are a number of Available Designs for developing writers, designers, and gamers to draw upon, such as narrative traditions and game strategies. They are then able

to use these within the process of Designing, which involves actively transforming available semiotic resources. The resulting text, such as a fan fiction story or a role-play game, then becomes The Redesigned. Given the dynamic and public nature of affinity spaces, each Redesign has the potential to become a new Available Design. In order to trace this process, I drew on interviews with young adults to understand how they accessed, made sense of, and employed Available Designs in order to engage in the creative and transformative act of Designing. By analyzing artifacts, such as artwork and dialogue integral to a role-play game, I was then able to gain insight into the ways in which the Redesigned are part of the wider affinity space.

Focal Participant

In this chapter, I offer a case study of a 17-year-old from Western Australia. Georgia is in her final year of high school and plans to attend university. She explains, "I'm an arts student, so I don't take any math or sciences because I find them unnecessary, and also quite stifling – there is no room to create, or to see things from a peculiar perspective. I prefer subjective, creative subjects with deep analytical possibilities such as literature." While she fondly recalls her teachers introducing her to *The Picture of Dorian Gray*, *1984*, and *Macbeth*, she reports feeling frustrated by the prescriptive assignments that she often encounters in school. In Year 12, Georgia said that she was "exceptionally fortunate to have been assigned a wonderful literature teacher. Her methods are engaging, and she encourages her students to interpret the text in their own respective ways… She understands, from reading my work in particular, how strongly I respond to certain texts emotionally – so she takes care to encourage my emotional responses."

Georgia is a fan of dystopian literature and she first read *The Hunger Games* in 2009. Georgia explains that the trilogy was not popular with her friends at school, and she wanted to "seek out like-minded people with whom I could converse and fangirl – people who would share my excitement and passion." Over the past four years, Georgia has been an avid participant in *The Hunger Games* online affinity space, and she used all three types of portals to engage in the *Hunger Games* affinity space. While Tumblr and Twitter are social media tools and TheFandom.net and Hypable.com involve diverse fandoms, Mockingjay.net is a root website unique to the *Hunger Games* affinity space. These various portals allow Georgia to engage with other fans and deepen her understanding of plot and the genre. More than that, they encourage Georgia's creative response to literature; she shares, "I like my creativity to flow, and I like to be inspired to read or write."

TRACING MULTILITERACIES IN ONLINE ROLE-PLAYING GAMES

While Georgia is active on multiple portals within *The Hunger Games* affinity space, this analysis will focus specifically on how she uses Tumblr to support her engagement with literature and foster her literacy development. Within a

Multiliteracies framework, the Designs of Meaning offers a tool to understand Georgia's semiotic practices related to online role-playing games. As a role-player, Georgia was able to draw on Available Designs, which included literary elements, such as genre and voice, as well as common patterns and conventions within role-playing games, like game rules. Georgia used Tumblr-based role-playing games in order to engage in the process of Designing, whereby she took on the role of specific characters, used available modes and semiotic resources, and engaged in meaning making. Consequently, the publicly available game became The Redesigned. When other fans read Georgia's Tumblr posts and followed how the RPG unfolded, the game then became a new Available Design. In what follows, I draw on the Designs of Meaning to analyze how Georgia used online role-playing games to engage in literary response.

Role-Playing Game Rules as Available Designs

Georgia and a couple of friends created *The Hunger Games Role Play*, which allowed other fans to propose characters, join in the role-play, and shape the game rules. In constructing this game, they drew on Available Designs, including role-playing practices and Tumblr conventions. Capitalizing on the rapidly growing popularity of the trilogy and the upcoming release of the first film, they used Tumblr hashtags, such as #rp and #katniss, to share their RPG within the affinity space. At its peak in 2012, the game had sixty different players that represented each of the districts within Panem. Within the game, each character had his or her own Tumblr, which was linked from the Follow List page. This allowed each player to have multiple characters and to follow the Tumblrs of all other players within the game.

One of the key Available Designs for Georgia was role-playing game rules. Moreover, Georgia's first foray into sustained role-playing was instrumental in informing her understanding of game design and game rules. Since *The Hunger Games* involves a fight-to-the-death game, it was vital that the rules of engagement and the accepted levels of violence be clear at the onset. For that reason, one rule stated, "Being rude or derogatory to role-players while either one of you is out of character is not acceptable. Save it for the arena, children!" and another noted, "The official rating of this role-play is MA. In keeping with the spirit of the Games, violence is acceptable. However, if you wish to delve into all the gory details, please take advantage of the Read More feature for the sake of readers who may not wish to witness it." This latter rule allowed some players to include violent acts in detail while permitting others to chose to avoid reading such (perhaps gratuitous) descriptions. At the same time, this rule also opened the opportunity to explore romances between characters.

As a game designer, Georgia quickly learned that part of designing a role-playing game is setting expectations for game play. For instance, some players were active daily while others either were not able or chose not to participate so frequently. Consequently, one rule stated, "If you are inactive for three weeks without declaring

hiatus to us, we will option your role for another to fill." Additionally, role-playing games require clear rules and shared expectations. Part of this entails having a common discourse; with text-based online role-playing games, this extends to grammatical features of the game. One rule specifically addressed this: "Role-playing is fun and easy, but more enjoyable for readers and role-players alike when you use correct punctuation, grammar and sentence structure. Please refrain from "script format" (putting actions in *asterisks* between dialogue). You don't have to write full paragraphs, but a more professional structure is more descriptive, and reads better!"

While some game rules for the role-playing game were established from the beginning, others developed over time and in consultation with other players. This was particularly evident when the *Hunger Games* narrative, which involved a fight-to-the-death scene, posed issues for the development of the game narrative, which would end following each character's subsequent death. Consequently, Georgia and her fellow moderators created the Cato rule,

> Only if the RPer agrees to the death can the character die. In the instance of the character's death, the role re-opens for another person to audition for. The character can be cast again, owing to the Capitol's advanced biological engineering capabilities. This is the only instance where resurrection is possible.

In order to advance the game narrative, the rules had to significantly alter the *Hunger Games* narrative. Georgia said, "After Cato died, we had to ask ourselves: Can he come back to life? Can someone else play Cato? What does that mean for our game?" They decided to imagine that the Capitol had a secret facility that could bring people back to life, thereby allowing characters like Cato to re-enter the game. At the same time, they agreed to allow new players to enter the game through recently resurrected characters.

As a game designer and moderator, Georgia learned how rules shaped players' expectations and practices. At the same time, she slowly grew frustrated with the "lack of common courtesy and common sense" that some players displayed. While this included minor disagreements and social politics, it also involved the ways in which players portrayed *Hunger Games* characters. For Georgia, fidelity was paramount, "It's really important to me to stay true to my character, and I wrote to Suzanne Collins' world. But others used the game as a way to play out silly fantasies, like having Katniss fall in love with a Career tribute." Consequently, the Available Design of game rules was just as important as the Available Designs of literary elements, including character development. Due to growing frustrations, Georgia and her fellow moderators decided to end *The Hunger Games Role Play*, but to continue playing their individual characters through separate Tumblr accounts. This offered Georgia the chance to continue to explore the *Hunger Games* world, but to do so on her own terms.

Role-Playing as Designing

Within a framework of Multiliteracies, role-playing can be seen as Designing. When Georgia engages in role-play, she transforms available resources and makes choices about her mode of communication. In order to participate in role playing games, Georgia needed to have an in-depth knowledge of the setting and characters within Panem as well as the history and purpose of the Hunger Games. At the same time, her interaction with other fans within the affinity space meant that they could readily ask questions and that they would likely correct any of her misconceptions. The role-playing game gave Georgia her first opportunity to embody characters from *The Hunger Games*. To do so, she had to understand each character's motivations and interactions with others within the story. But she also needed to consider how *Hunger Games* author Suzanne Collins used descriptive language and dialogue to advance the plot. Rather than being a passive reader of *The Hunger Games*, Georgia's role-playing offered her the chance to draw on Available Designs. It also allowed her to create three separate Tumblrs and explore the characters of Clove, Cinna, and Cashmere through the process of Designing.

Role-playing games were instrumental in shaping Georgia's experience as a Designer and developing her craft as a writer. Prior to reading *The Hunger Games* or joining Tumblr, she was already passionate about writing, thinking, pondering, and exploring the world around her. But Panem was something else entirely, and as Georgia put it, "You just want to act out what you love. Role playing lets me immerse myself in a new world and hone my skills as a writer." However, not all of Georgia's writing development took place online or in a public space. With each of her characters, she wrote short stories that explored key moments in their lives, and to "imagine bits and pieces from their pasts." While Georgia role-played three different characters, the one that she invested the most time and effort in was Clove.

Clove is a minor character in the *Hunger Games* novels, and Georgia was fascinated by her - a beautiful, strong, and sadistic Career tribute. Clove hated Katniss and murdered young Rue; despite her slight frame, she was skilled in the use of knives and reveled in psychological warfare. Georgia initially chose to role-play Clove for one simple reason: "Careers are bad ass." But through exploring Clove's character in privately-written, third-person stories and publicly-shared, first-person role plays, Georgia gained new insight into Clove's character. As she describes, "I found new meaning through my writing." As a result, Georgia engaged in Designing both outside of and within the role-playing game. This is evident in some of the short stories that Georgia wrote as part of her character development process. For instance, "Julius" explores how Clove's childhood may have contributed to her violent nature. The story begins:

Georgia's Character Development Story
"What does he look like to you?"

"It looks like a dog."

> “He, Clove. He. Who does he remind you of?”
>
> Clove wrinkled her nose as she glared fixedly at the animal before her; sleek and bony, with large grey eyes that almost resembled her own. “It's got a long face,” she finally declared. “Like Julius, from training.”
>
> Her father, a wise young man with impeccable posture, smiled down at her. “Then Julius is what we'll call him."
>
> “So it's ours?”
>
> “He. He is yours.”
>
> “Oh... Why?”
>
> He smiled that same knowing smile; the one he wore when craned over the drawing table, or when he dressed her for the reaping and told her that one day, Clove, your name will be in that bowl. “You have a lot to learn from Julius.”
>
> And without much further discussion, the dog was assimilated into the house.

Georgia continues her story, sharing that the bond between Clove and Julius developed over the years. She writes, “Their partnership was unspoken, fluid, and perfect. Clove learned to trust her dog as her companion and her hunting partner, and, some day presumably around her sixth birthday, as her friend.” But as a Career tribute, she had to harden herself to such friendships. One day, her father ordered ten-year-old Clove to assemble her knives. As the realization of her father’s words hit Clove, Georgia continued Clove’s story:

Georgia’s Character Development Story

> It took all of Clove's effort to stand; she tucked her knives into her palm and turned to face her father and her dog, who surveyed her with those round, dark eyes. They were calm and wise, as if he knew that he had been raised for the slaughter. That same calmness dwelled in her father's eyes as he released the dog and stepped aside to give his daughter a clear shot.
>
> Her hands shook violently as she raised her knife.
>
> “Dad, I can't,” she said weakly. “I can't hurt him.”
>
> “It, Clove. It.”
>
> She shook her head. “He's just a dog!”
>
> “Exactly!” Clove's father glowered at her, a fire striking in his features with scorched her. It was debilitating. “A dog is nothing compared to a person. How do you expect to kill anyone at the bloodbath if…”
>
> “You made me name him!”

> "People have names too, Clove! But a name doesn't matter to a corpse. Now throw the knife, or so help me you'll be stitching your own wounds tonight."

Georgia's story doesn't end here, with the murder. Instead, she considers what else may have happened to Clove. After killing Julius, Clove tried to put the day's events out of her mind. The next day, she found a note from her father, expressing his pride in her. The note was accompanied by a gift. Georgia writes:

> In it was a pair of soft leather gloves, inside lined with sleek, dark fur. Julius' fur. Clove put them on, grateful for the warmth they provided, as she endeavored to seek out her father to give him her thanks.

Outside of the role-playing game, Georgia's short stories, such as this one, were critical in advancing her knowledge of the world of Panem and the characters within it. Moreover, her out-of-game writing helps her with her in-game role-playing and Designing. Georgia's motivation with these stories was not to share her work with a public audience; rather, it was to develop her craft.

Sharing the Redesigned Through Tumblr

While Georgia's main role-playing character was Clove, she also role-played Cinna and Cashmere. By role-playing all three characters on Tumblr, Georgia made The Redesigned, or the transformed Available Designs, available online. Georgia was drawn to Cinna, an important character throughout the trilogy, and Cashmere, a minor character in *Catching Fire*, and wanted to explore them more within the context of the role-playing game. While both characters hail from the Capitol, the similarities end there. Cinna is a brilliant stylist and a double agent who plots a revolution. Cashmere is a career tribute and previous victor of the Hunger Games. By role-playing these characters, Georgia was able to delve into their histories, their motivations, and their voices. This can be seen in their Tumblr introductions and design (Figure 1), which are part of The Redesigned. Cinna's introduction focuses on his role as a stylist; in her posts, Georgia shared some of her artistic interpretations of Cinna's designs. As Cinna, Georgia's writing is descriptive and poetic; she talks of practical beauty, obscure materials, and raging fires. In contrast, Georgia takes on an entirely different voice as Cashmere; she is confrontational, blunt, and haughty. A minor character in one novel, Georgia's writing as Cashmere allows her more room for exploration and interpretation.

Tumblr promoted Georgia's creative writing skills. Writing in the omniscient third person, she focused on her characters' dialogue with others and her description of their surroundings, actions, and interactions. Role-playing demanded that Georgia be responsive to how others within the game advanced the storyline. For instance, Cinna and Katniss engaged in a lengthy exchange within the game. When another role-player introduced the idea that Katniss felt regret at her perceived weakness and poor decisions, Georgia-as-Cinna immediately responded,

Figure 1. Screenshot from Cashmere's Tumblr.

> "You made the decisions that needed to be made. War is war; it is unfortunate that we had to resort to war to reach equality, but it was necessary. And look at all the good work you've done, and all the lives you'll save, the people who've liberated; you always were brave. The bravest woman I have ever known. You have never needed me to be brave." His words were earnest, heartfelt, things that he had always been reluctant to put into words. The line of his stitches and the stroke of his pencil spoke volumes more than his words; but they were all he had, here and now. Katniss needed to understand how she had changed the world.

While Georgia's literary knowledge fostered her engagement in the role-playing game, Tumblr's interactive design encouraged her interaction with others and offered her an eager audience for her creative work.

As a digital tool, Tumblr offers writers a powerful opportunity to share their Redesigns with an authentic audience. According to Georgia, "As a writer, I had the chance to work with other writers in tandem. Many of them are really talented, and I need to respond quickly and in character." By role-playing different *Hunger Games* characters, Georgia was challenged to embody each character's unique voice

and reflect their beliefs and perspectives. While she primarily used Tumblr for her creative writing, Georgia also used it as a way to share her artwork and others' creative work (see Figure 2). In this illustration, Georgia imagined how Cinna would see Katniss; she shared it on Tumblr with the caption, "A concept that came alive on the girl before it could be committed to paper. Katniss Everdeen's hair." Not only does Tumblr provide a collaborative and multimodal platform for fans like Georgia to share their creative work, it also offers a way for them to connect to the wider affinity space and fans across the world.

Figure 2. Illustration from Cinna's Tumblr.

DISCUSSION

Unlike classrooms, most affinity spaces distribute leadership opportunities across many individuals, texts, and tools (Gomez, Schieble, Curwood, & Hassett, 2010). For students who are disengaged with school or resent the prescribed nature of their literary experiences in English classes, online role-playing games offer a powerful way for them to demonstrate their leadership, develop their literacy skills, and engage in self-directed learning. Kalantzis and Cope (2000) suggested that a Multiliteracies pedagogy can shape curriculum design and content instruction. They proposed four related elements: Situated Practice, Overt Instruction, Critical Framing, and Transformed Practice. Situated Practice is firmly grounded in students'

interests and lived experience, thus allowing space for agency and identity to enter into the classroom. To begin, teachers can use surveys and class discussions to uncover students' interests. By incorporating popular culture, for instance, into the classroom, students can engage in Situated Practice.

Overt Instruction makes the underlying concepts and theories of learning that shape curricular content explicit. The aim of Overt Instruction is for students to engage in conscious awareness and control over what is being learned. Rather than using literature in a decontextualized way to teach about literary elements, teachers can ask students to assume the role of a specific character. While role-playing games can take place online, they can also readily take place in the classroom in both small and large group settings. Kalantzis and Cope (2000) explained that a defining feature of Overt Instruction is the use of metalanguages, including those that define the form, content, and function of discourses in practice. Critical Framing, in turn, situates knowledge within a relevant context and fosters reflective learning practices. For secondary English teachers, this means sharing with students how literature is fundamentally positioned in social, cultural, and historical contexts. *The Hunger Games*, for example, draws on myths, symbols, military histories, and classic works of literature. Finally, Transformed Practice emphasizes the importance of applying knowledge, skills, and tools in novel situations.

Georgia's out-of-school engagement in the *Hunger Games* affinity space, role-playing games, and Multiliteracies positively impacted her in-school writing. This was due, in part, to her Senior English teacher who encouraged her emotional and analytical responses to literature. This led to Georgia writing an essay, inspired by *The Hunger Games*, which won a school prize. In it, she made clear intertextual connections,

> A close analysis of the socio-political climate of Panem has led me to take under serious consideration the alleged crimes of the Capitol, and to wonder whether the result of Katniss' defiance was really due. Is the Capitol truly as evil as we think it is – or is it just another step in evolution?

For Georgia, role-playing and writing allowed her to experience *flow*. According to Csikszentmihalyi (1996), the context and task are vital to achieving flow, whereby a person is fully immersed in and highly motivated by an enjoyable activity. While creative writing can often be a challenging activity, an online role-playing game offered her a clear set of goals, measurable progress, and immediate feedback. Reflecting on her experiences, Georgia explained, "There's a real skill to it. It's the sport of kings on the Internet."

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ANNE BURKE

4. TEACHING WITH CLUB PENGUIN

Re-creating Children's School Literacy through Paratexts in the Classroom

INTRODUCTION

The growth of children's virtual worlds has introduced a new and exciting forum where children can interact socially with peers and others, create new friendships, and generate new texts and gaming experiences in the classroom and at home. The growth of these online worlds has resulted in profound changes to the way children play and form relationships, as the digital experience galvanizes these social dimensions of childhood in a more widespread and participatory culture.

Virtual worlds for early learners were almost unknown ten years ago when digital play spaces were generally considered to be the realm of older computer users and more serious gamers. Increasingly, however, online creators and multi-national conglomerates are targeting younger audiences. In 2009, cumulative numbers from various child-oriented virtual worlds suggested they had around 180 million registered users under the age of ten. By the end of 2011, these figures had doubled, and the numbers for children over ten were exponentially greater (Kzero Kids/Tween Universal Survey, 2011). There is an emerging research base attempting to understand how children make sense of these new play experiences and how they participate in online virtual worlds. Research focusing on the areas of social networking, emergent play, and emotional and physical growth as it pertains to children's online experiences continues to be undertaken (Black, 2012; Burke & Marsh, 2013; Kafia, 2010; Merchant, Gillen, Marsh & Davies, 2013; Reich & Black, 2012; Subranayam, 2009). Though we have reports that look at children's digital play and mobile technology (Rideout, 2011; Shuler 2009; Marsh et al., 2005), and studies (Black, 2012; Burke & Marsh, 2011; Wohlwend, 2010) which frame our understanding of the changes in young children's digital play have been conducted, there is much less research looking at how children's gaming lives, and the texts they create and produce, can be used to enhance their literacy skills in schools. The current growth of digital play in virtual worlds presents a profound need for more empirical research on how children learn. This is especially true now that the play and the social lives of children are spanning into virtual spaces. Discovering both what and how children are learning from online gaming is critical.

In this chapter, I look at the use of paratexts in the classroom, while considering how gaming literacy can complement and support traditional language arts resource

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 67–88.

materials. In addition, I reference multimodal literacies and their digital affordances as a framework for the consideration of these texts as school literacy activities. Multimodality relies on the alliance of multiple modes for the communication and expression of meaning, reaching far beyond the traditional text-based definitions of literacy. The integration of such modes speaks to the multiple forms of representation in which texts may be communicated. Ultimately, we can see how educators may access, harness, and develop the digital practices of students in the service of larger curriculum goals.

GAMING & EDUCATION

A running theme found in many gaming studies speaks to how children's play, games, and virtual world presence provides a rich opportunity for the teaching and learning of digital literacy. Apperley and Walsh (2012) reported that teachers might use gaming literacy to complement the acquisition of print-based textual learning materials currently used in classrooms. One of the benefits of connecting digital literacy with print-based literacy is that student learning becomes more multimodal. Learning in this vein diversifies texts as "visual, spatial, and auditory as they are linguistically centered" (Healy, 2008, p. 6) and invites differentiation among learners with different learning styles, abilities, and cultural differences.

One particular focus of this elementary classroom research study involved paratexts, in particular those found and inspired by the online virtual world known as *Club Penguin* (www.clubpenguin.com), where different representations of text appear in the form of images, written text in the form of words, and audio texts in the form of sounds. Walsh (2012) demonstrated how digital literacies and gaming paratexts can be used in the classroom. For Walsh, the use of paratexts refers "to digital gaming and game cultures, and using them in the classroom enables practitioners to focus on and valorise the considerable literacies and skills that young people develop and deploy in their engagement with digital gaming and game cultures" (Walsh, p. 323). As recognized by the teacher in this study, using these types of digital literacies can help bring to the classroom what students use in their everyday lives at home. "The term paratext is mobilized to describe the print and multimodal texts used and often developed by game players that circulate in the complex nexus of literacy practices that make-up digital gaming cultures" (Applerley & Walsh, 2012, p. 116).

In today's society, technology is a huge part of children's lives. Because of the relevance in their lives, "digital game paratexts are easily accessible print and multimodal texts that connect gaming with curriculum-based literacy outcomes" (Walsh, p. 323). Current research practices conclude that digital literacy in the classroom can motivate children in ways that traditional teaching cannot. In better terms, "digital games increase players' ability to manage spatial representation, iconic skills, visual attention and problem solving" (Walsh, p. 323). Such motivation was observed in our data collection at the school during our weekly meeting. We also observed how children developed skills that "encourage[d] experiential and exploratory learning,

[which] provides players with conceptual understandings of active learning strategies, and fosters social engagement and the development of collaborative skills" (Walsh, p. 323). The administration team at the school was interested in how these skills could transfer into social and collaborative values for the children and how the use of gaming paratexts could be applied to their everyday learning.

Like much of the school environment, gaming involves not only involves learning to play the game, but also getting to know the paratexts well. Children take their school practices to the test when it comes to online reading for gaming paratexts such as GameSpot, for example. In the Walsh study, researchers spoke with a ninth grader who "disliked reading, but spent his Thanksgiving vacation pouring over a Pokemon training manual in order to get ahead in his gaming skills" (Walsh, p. 324). Similar to Walsh's research, many children in this study enjoyed reading *Club Penguin* manuals and gaming texts because they found that it was more is relevant and motivating in comparison to other texts in the classroom.

While reading is not the only thing that gaming paratexts entails, children do read "descriptions, guidelines, instructions, and strategies for digital games. However, they should not be regarded as merely practical, but also as imaginative and creative outputs that include writing, digital artwork, visual and audio design, and new game designs" (Walsh, p. 324). In our *Club Penguin* study, children showed their creative outputs in their sharing of their written texts. Although all of these skills can be used in the classroom on a day-to-day basis, more work needs to be done in order to add them to everyday practices and activities. We observed how the teacher's understanding of the importance of making available *Club Penguin* mission books and toys brought greater literacy benefits for children when using the paratexts, and introduced how these texts could be used in everyday teaching practices.

THE DISNEY ORGANIZATION

Giroux and Pollock (2010) asserted that the manner in which large corporations, such as Disney, produce and disseminate children's culture has the potential to drastically shape children's everyday lives. "The concentration of control over the means of producing, circulating, and exchanging information has been matched by the emergence of new technologies that have transformed culture, especially popular culture, which is the primary way in which youth learn about themselves, their relationship to others, and the larger world" (Giroux & Pollock, 2010 p. 1). Put another way, digital technologies, films, television, etc. have transformed our cultural practices and thus regulate our social practices. These technologies are no longer simply media of communication or entertainment, but have become the primary site of education for both children and adults. It is in this manner that Giroux and Pollock framed these technological productions as a contemporary public pedagogy. The school study site discussed later in this chapter did express concerns over the use of a Disney produced virtual world such as *Club Penguin* for literacy instruction, but felt that the social and friendship benefits for the children would outweigh such concerns.

While the media content produced for consumption would seem to be increasing, the number of multinational corporations responsible for its production are decreasing. Following this, as in the case of Disney, power becomes increasingly concentrated amongst these few large corporations. The images produced by multinational corporations such as Disney are foundational to the transmission of information implied in the concept of a public pedagogy. It is important to note, however, that these images similarly inform the individual's most private desires and perceptions. "At issue for parents, educators, and others is how culture, especially media culture, has become the primary educational force in regulating the meanings, values, and tastes that legitimate particular subject positions – what it means to claim an identity such as male, female, white, black, gay, straight, citizen, or noncitizen" (Giroux & Pollock, 2010 p. 2). Media culture, then, is responsible for establishing concepts and definitions of gender, race, sexuality, nationality, etc. Recent statistics have underscored exactly how pervasive this sort of corporate produced culture is through interactions with technology in our daily lives. It has been estimated that the average American may spend in excess of six hours a day watching film, television, and other video-based entertainment, and that the numbers of hours consuming these forms of entertainment will match the number of hours spent asleep by 2013.

Multinational corporations like Disney are aware of the vast potential for significant profit that can be made from the commodification of children's culture. As such, much is invested in determining the purchasing habits of children, as well as their ability to influence the purchasing habits of their parents. "If Disney has its way, kids' culture will become not merely a new market for the accumulation of capital, but a petri dish for producing new commodified subjects" (Giroux & Pollock, 2010 p. 3). Children and adolescents seeking to establish their own individual identity are especially vulnerable to multinational corporations like Disney. This is largely a result of market research that attempts to employ strategies of commodification as discretely as possible.

The Disney organization, which designs and operates *Club Penguin*, has created a number of paratexts based on activities within the game that engage students' writing interests, as well as drawing upon their gaming knowledge to complete a task. The teacher in this study felt the use of such texts was a good method to include outside literacies such as those used in gaming practices in a written assignment. The paratext template provided by Disney invited her to do so. In my previous work, I observed that young gamers' literacy practices are very active, and move fluidly between online and offline play. I have also observed, however, that teachers in my study did not see the value of gaming because it was thought to be outside of curricular school literacies (Burke, 2013). Paratext activity, for example where students write and solve mysteries through sharing of game moves or "walkthroughs" (Consalvo, 2003), give students the opportunity to use their gaming literacies as school sanctioned funds of knowledge. In this study the teacher saw the benefit of such gaming literacies to build literacy skills.

Apperley and Walsh (2012) noted that there is often a tangible segregation between a child's educational life, and their home life. Jewitt (2009) also lamented the

differences between the multimodal-rich out-of-school learning environments and the mono-modal learning environments that are present in many classrooms. This study aimed to bridge to the multimodal lives which the teacher in the study understood as a valuable avenue for connecting to her classroom children's lives. Gee described students' online identity as their virtual identity, which should be thought of as a "virtual character in a virtual world" (2007, p. 49). This virtual identity is enabled by a multiplicity of identities: the real world, the performed, the projective, and the associative (Abrams, 2011). Gee (2007) also acknowledged the discontinuity between students' out-of-school literacy and their school-based learning, but noted that identities are normally fluid. Central to Gee's ideas is the understanding that game-play cannot be understood as merely an event that takes place on an isolated digital screen (2003). Instead, it is enacted by gamers in specific contexts, or locations, using specific technology. "The concept of situations is important because it articulates the overlapping connection between digital gaming and off-line activities, and how game-play experiences are shaped by everyday life" (Apperley, 2010, p. 120).

PARATEXTS IN THE CLASSROOM

Educators "often bemoan the fact that video games are compelling and school is not" (Gee, 2007, p. 65). Digital game paratexts present themselves as a segue between the out-of-school and in-school literacy activities that characterize a child's life. Digital game paratexts also complement traditional print-based literacy because they conform closely to the textual requirements of the "official curriculum" (Apperley & Walsh, p. 116). This was indicated by my data when I looked at the types of learning outlined in provincial curriculum documents. For example, in grade four, language arts students are expected to be able to critically interpret, select and combine information from a variety of resources and technologies. Digital paratexts, similar to the ones used in this study, could also correspond to Gee's (2007) suggestions for careful consideration in choosing and using virtual reality worlds in the classroom. This prudence stems from widespread concern about children's safety when learning with screens of all kinds (Palmer, 2006; Rogers 2012). Further Apperley and Walsh (2012) found that when acknowledged by educators, gaming literacy and the consumption and productions of digital paratexts can increase the ability of student gamers to acquire multimodal literacy, and help bridge the gap between out-of-school digital practices and their learned experiences in the classroom. As found in my research, the teacher was instrumental in connecting to the multimodal landscapes of the children's lives when she engaged paratexts in the classroom.

IDENTITY

Consalvo (2003) suggests that many game fans will go to great lengths to immerse themselves in digital worlds, often creating detail, suspense, character development, reader identification, and a strong attachment to a main character. Gee (2007) credits

this investment to gamers' projective identity, which is described as a projection of one's "values and desires [that students project] onto the virtual character" as well as "seeing the virtual character as one's own project in the making" (p. 50). In this projective identity, students use personal aspects of their lives such as their history, while some attempt to compensate for their real world limitations. Digital media-like games are often pegged and stereotyped in major media as detrimental for the minds of today's youth. In a world where this type of media culture is so pervasive, educators cannot casually push creativity, that is cultivated by an ever-increasing digital culture, to one side. Consalvo (2003) points out that children who play videogames are active members of the media consumer market around these games, and it is necessary to include children's literacy practices in any discussion about gaming. "Games are fundamentally more active than television viewing, and gamer's intertextual use of media forms demands that researchers consider more than just pixels on the screen when considering video games" (p. 332).

Digital game paratexts can be viewed as creative, performance based, and imbued with the gaming passion of the player. Gamers are exposed to different representations of text in the form of images, written text in the form of words, and audio texts in the form of sounds. Moreover, the language that is used in a paratext, such as Disney's *Club Penguin* activity book, is representative of its virtual world audience, where its readers can readily identify the content of the book (i.e. the puzzles and writing activities). Gerber and Price (2011) state that,

> by understanding and validating these experiences, and by allowing students to write on topics about which they are passionate and knowledgeable as an impetus and platform for writing multiple genres for multiple audiences, teachers may help students become more proficient writers and even enjoy a subject that they may have at one time dreaded. (p. 72)

By using digital-based literacy in the classroom and harnessing gaming language through paratexts, an educator can stimulate creative collaboration between what is necessary in a child's life (education and learning) and what they are interested in (the digital world, games). This is paramount, as student gamers that adopt virtual avatars and interact within virtual worlds through their projective identities, will rehearse "new values and ways of being" (Gee, 2007,p. 63). Using multimodal pedagogies, an educational system can utilize traditional print-based literacy in collaboration with digital gaming to bolster a child's learning efficacy by combining the child's learning with gaming. Jenkins (2005) advocated that educators should harness this intense interest, and seek to develop a curriculum that complements and collaborates with youth interests. The school in this study saw the importance of harnessing the children's gaming interests to aid traditional literacy teaching. "The educational use of electronic simulation games works…not as a replacement for good teaching or tried-and-true methods, but as a tool that good teachers can use to spark learning and to provide a context for a range of other related experiences" (Jenkins, 2005 p. 51). Educators who engage with virtual world playmaking would be harnessing

the multimodality that children engage through their everyday creative text-making practices.

GAMING IN TRADITIONAL SCHOOL

We live in an increasingly technological world. Everywhere we look, we see children immersing themselves in digital culture such as gaming communities, smart phones and tablets, and social media platforms such as Facebook, Instagram, and Pinterest. Furthermore, for one to succeed economically in the modern world it is almost imperative to have a certain familiarity with digital culture. Gerber and Price (2011) suggested that encouraging students to participate in the more traditional literacy practices is increasingly difficult given the prevalence of contemporary digital literacy practices. "Traditional school finds itself battling the engaging media of Facebook, YouTube, and the latest video game on a daily basis (Gee, 2003; Hull & Schultz, 2001). These media, however, should not be seen as an opposing force to the traditional goals and nature of the English classroom" (Gerber & Price, p. 68). Gee (2007) contended that good videogames offer students a greater potential to learn because they provide rewards based upon problem solving skills and higher order thinking. Students must learn and demonstrate their understanding as they advance in the games. As suggested in the interviews with participants in this study, the young players illustrated critical thinking and problem solving skills in writing their paratexts in traditional literacy forms. The teacher also valued the children's class presentation of their paratexts with peers re-creating the collaborative knowledge sharing network observed in their classroom on-line play (Burke, 2014)

The observation in this study speaks to why it could be a mistake to stereotype gamers as passive participants. Gee (2003) explained that "When anyone plays a digital game, it happens in a situated context that is integral to understanding the learning and sociality that occurs during the experience of gaming" (p. 120). Likewise, Apperley (2010) explains that game play cannot be understood as merely an event that takes play on an isolated digital screen, rather "the concept of situations is important because it articulates the overlapping connection between digital gaming and offline activities, and how game-play experiences are shaped by everyday life" (Apperley, 2010, p. 120).

Salen (2007) argued that as products of design culture, games reflect a host of technological, social, material, formal, and economic concerns. A game designer indirectly designs the player's experience, while the player goes through the motions of learning through digital literacy, as well as designing the rules of play. Walsh (2010) likewise contended that adolescent videogame players instruct themselves in the field of technology and digital play. Game-play and design require players to explore and negotiate risk, possibility, identity, and subjectivity in new and emerging virtual worlds, on their own or collaboratively. Similarly, a child using videogames engages in social interactions both as a virtual identity within the game and as a real world identity among other players. "Gamers often organize themselves into

communities of practice and that creates social identities with distinctive ways of talking, interpreting experiences, and applying values, knowledge and skill to achieve goals and solve problems" (Gee, 2008, p. 24). In our observations, the use of the paratexts in this study naturally created communities of practice where discussions around the game play connected the children's knowledge of school based literacies and outside game practices. (Burke, 2014) Digital games are systems (Juul, 2003; Salen & Zimmermann, 2004). They are based on rules (Järvinen, 2003) set into motion by players. When students (or anyone else) play digital games, they are reflective in the action of playing the game (Schon, 1983; Salen, 2007; Salen & Zimmerman 2004, 2005). Students strategize the potential moves they can and will make, as well as the potential consequences for each move to be made in a game. Walsh (2010) acknowledged that systems-based literacy practices are contingent upon the game player's understanding that the system is constituted by their interaction with the game. Digital literacy, therefore, allows youth to take a leading and creative role in their learning by designing narratives, plots, character development, rules, consequences, and so on.

MULTIMODALITY

Multimodality is present in everyday forms of literacy, but implicit in the images, literature and information found in communication technology (Harste, 2010; Jewitt, 2009). This technological wave has transformed traditional forms of literacy, and generated new forms for students to demonstrate their knowledge. Since most children are not innate critical thinkers, they need to be taught how to develop critical thinking skill*s* through the use of multimodal forms of communication that frame their lives. The use of paratexts used in the classroom study invited an opportunity for children to develop critical skills. Children critically selected most appropriate modes to suit their communicative purposes to share their *club penguin* game secret. However, for a deeper critical learning experience, the teacher in the study could have engaged the children in discussions about aptness (Kress, 2010), that is, conversations about the "potentials of different modes and work at which mode is best suited to express particular meanings" (Stein, 2008, p. 83).

It is paramount that teachers incorporate multimodality in school-based learning as it helps to enhance students' critical thinking and supplement their various identities. These shifts across semiotic practices are said to "produce not only variations in content and meaning, but also shifts in the child's subjectivity" (Stein, 2008, p. 884) because they require students to draw on aspects of their life-worlds when completing multimodal projects. Multimodality can also lead to transformational pedagogy through trans-modality (Rowsell, 2013) or inter-semiotic relations (Jewitt, 2009) or the fusion of modes (Stein, 2008). Although as discussed earlier in the chapter there are concerns over multi-national conglomerates such as Disney's marketing of images and static texts such as the *club penguin* paratexts, Rowsell (2013) rightfully calls for conceptions of multimodality to frame instructional time

in classrooms which invite children to act as creative designers who mix different modes in order to produce new forms and find ways of expressing their ideas. In keeping with Rowsell (2013), I observed how students collaborated with their peers through gaming literacy, and importantly saw how paratexts may acknowledge participatory structures in which students use different modes that support their abilities as designers.

Early research concluded that multimodality was not a pedagogy, but a "reconceptualization of learning" which could lead to "rethinking pedagogy" (Stein, 2008, p. 875). Unfortunately, school-based learning will not be beneficial for students unless schools adapt their curriculum to "support the critical reading of [gaming] multimodal texts" (Harste, 2010, p. 35). Moreover, teachers need to adapt new ways for evaluating multimodal texts as they use different designs from pen and paper based texts (Harste, 2010).

RESEARCH CONTEXT

During a period of one school year, I observed children playing online in the virtual world of Disney's *Club Penguin*. The study took place at a middle-sized elementary school located in an affluent neighborhood in an urban city in Canada. Close to 60% of the 700 students who attended the school were bussed daily from their homes. There were 15 children who participated in the study. Participants included eight boys and seven girls, ages nine to eleven, from one grade four classroom. The classroom teacher had been at the school for five years. She encouraged her students to read independently, including in her recommendations to the students' novels, magazines, graphic novels, and popular culture material such as Disney's *Club Penguin* mission books. During our virtual worlds 'club' held on Tuesday afternoons, the children would play freely on the site in the computer lab. The Principal and Vice-principal visited often to see what the children were doing, but were mainly interested in how children were developing friendships through their play. While both administrators were strong advocates of play-based literacy in classrooms, they expressed concerns about the opportunities for socialization of the children, as the catchment zone for the school reached far beyond the walking neighborhood. There were concerns about a disconnect between the neighborhood children and those who came by bus. Both administrators saw the value of connecting the children from both neighborhoods through the virtual world of *Club Penguin*. In one discussion before the study began, the principal shared, "I would like for the kids to know each other outside of school in some way, some parents do not have the transportation to help kids connect whereas others are far too busy working." Many of the questions the administrators asked the children when they visited were around friendship, play and whether they connected with each other on the site during the weekends.

Children were given Deluxe *Club Penguin* memberships for the purpose of the study. While *Club Penguin* is essentially free, paid memberships offer a greater degree of access to the sites' games and affordances. Ten of the children owned

a *Club Penguin* account previous to the study, and were well acquainted with the virtual world. Much of the activity I observed was focused around the arcade games, earning virtual coins, performing secret-agent 'missions,' dojo competitions, friend requests, player interaction such as dancing, pizza making and visiting each other's puffles (the games' virtual pets) housed in their penguin avatar's igloo. Interestingly, students often brought their puffle toys to school, and would place them on their desks during the club sessions. We observed that students often mimic online play during offline playtime, by organizing dance contests, or by making pizza using craft materials. The teacher also noted in her field notes that the girls would make plans in class to meet on a particular server in *Club Penguin* during afterschool playtime. She commented that children invested much time in maintaining their pets and penguins, and this interest was shared among many of the children during creative play in the classroom. In general, the teacher had a natural curiosity about *Club Penguin,* and was receptive to using *Club Penguin* paratexts in her class to engage the creativity of the children.

DATA COLLECTION AND ANALYSIS

A case study (Stake, 2000) approach was used to look at children's virtual play across online and offline spaces. The use of case study methodologies is effective for centering on the children's virtual and classroom learning for this study. The intended goal for this research was to gain a more meaningful understanding of children's virtual play, their literacy practices, and their engagement with the multimodal capacities offered within the *Club Penguin* site, as well as how these literacy practices could be extended to the classroom. Wolfe and Flewitt (2010) keenly note that new media greatly impacts "children's development as 'literate beings' and on their learning more generally" (p. 388). Data were collected in many forms, including through instruction time in the classroom, during recess and lunch, and in a designated computer lab where children would play on the *Club Penguin* site. Play making on the site was documented through screen shot programs such as Jing, and through the use of hand-held recording cameras. A total of 30 hours of recording was viewed. The classroom teacher also observed the children play on the *Club Penguin* site during weekly data collection. She was interested in how the children's literacy engagements on the site could be included in the classroom. By being present in a number of school learning contexts—during instructional class time, recess, lunch, and afterschool—I was able to take a holistic approach to the analysis of data, thereby understanding more about the children's real life contexts. Data were collected through (A) detailed field notes, (B) recordings of students' play online, (C) transcribed interviews with students and teachers, (D) paratexts and digital texts in the classroom, and (E) videos and still shots of toy play. In this way, the data collection was intended to give agency to the children's gaming literacy by articulating "pivotal moments in their lives and to reflect on life trajectories" (Hull & Katz, 2006, p. 43). The analytic methods used included thematic coding

of children's paratexts for use of modes and critical discourse analysis (Fairclough, 1995). Critical Discourse Analysis is useful for pinpointing the storied selves of children's lives. It included children's "ways of interacting, ways of representing, and ways of being" (Rogers & Elias, 2012, p.260). The data were read and coded for major themes and subthemes across data sources, and codes were revised and expanded as more themes arose. In this case study, the particular focus was digital play in virtual worlds, and how the gaming engagements of children in *Club Penguin* could become a part of the curriculum and pedagogical practices of the classroom teacher.

USING PARATEXTS IN THE CLASSROOM

The use of paratexts as an aspect of this study was a result of the teacher's desire to incorporate the creative play from *Club Penguin* experiences into her classroom curriculum in the form of a literacy text. Over time, she decided on the idea of a newspaper article, an explanatory form of essay that is familiar to most of the children. The assignment was chosen from a Disney *Club Penguin* activity book, and asked children to focus on asking the '5-W questions,' a traditional literacy text required in the grade four language arts curriculum. The assignment asked students to work in a multimodal capacity by writing the article through relating their favorite Top Secrets in game play.

Who likes to play this game? (Penguins who like adventure? Penguins who like to solve puzzles? Penguins who like to role-play?)

What kind of game is it? (Is it a surfing game? A multiplayer game?)

When do you play this game? (Anytime you are on Club Penguin? Whenever you can find a buddy to play it with you?)

Where can you find this game? (In the Lighthouse? At the Dojo?)

Why do you like playing this game? (Because it is fun? Because you like a challenge? Because you always get a high score?)

Figure 1. Top Secrets Paratext in Club Penguin.

In the next section, I examine three participants' paratext response to the assignment, showing how the children engaged creatively with the multimodal language present in game play on the screen. The students were excited to complete this assignment, which allowed them to draw on the imaginative experiences they had developed in a creative part of their online play lives. Consideration was also given to how the students' creativity engaged expected school-based skills as related to higher order thinking in their written responses:

In using **critical skills,** the writer needed to analyze the artifacts and activities in the game to figure out the rules and constraints of the game. This is how the player is challenged by the game.

Analytical/ Explanatory skills asked that the writer figure out how to select aspects of game play in a textual form and present it through the multimodal actions and choices made by the player.

In **problem solving**, the writer had to solve the game for himself/herself and compose a mental flow chart, which could be reproduced in the form of text.

MEGAN

Megan is an avid *Club Penguin* player and at the time of the study had two separate accounts – one of her own, and another for a younger brother to whom she was teaching the rudiments of the game. She regularly brought a collection of *Club Penguin* toy figurines and Puffles to school. Her teacher described her as a good reader and writer, with a keen sense of humor and an exuberant presence. Chatty and knowledgeable about virtual play, she considered herself an experienced gamer, and had accounts on other game sites, like *Poptropica and Dress-up Dolls*. She creatively engaged with the assignment.

Megan's Paratext

> "Psssst, do you want hear a secret. I know many. First of all, did you know that in the pizzatron 30000 game you can turn the regular pizzas into candy pizzas. I also no [sic] many more. To catch the mullet you wait until all the evil things go by, then put a fish on your line. So you can catch the mullet. Also when you go to play Bean counters, there is a certain spot that you click and jellybeans come out. Press the jelly beans then play the game! Did you know that you can also get a silver surfboard. OK, first go to the cove, then press the sheet of paper in the bottom right corner. Press the words and Walla. You got it. Now, last but not least, I will show you how to make a funny sound. Press the letter E then letter T. I think it kinda [sic] sounds like a fart!"

Megan's news item paratext is unique in that she creatively uses her own voice in her writing. Engaging in the multimodal capacities of the site, she easily describes her gaming trajectory through her description of her 'Top Secret'. Her voice reflects the confidence she has in the classroom, along with the strong social skills I observed through her interactions with others. Megan views herself as an expert, and demonstrates a great enthusiasm and pride in teaching others. Her paratext reflects how she uses features and recognized artifacts to help divulge her secrets. For example, Megan's description of the site's step-by-step directions shows how she engages creatively through the choices she makes through the multimodality of screen-play

in her paratext. It also demonstrates her ability to actively engage an audience with her descriptive narrative of the game's use of various modes working in concert. In many ways, her description captures how her creative choices in the artifact capture the playfulness of the site. The multimodal features characteristic of online texts are also present in her written paratext—the visual mode: "silver surfboard," the gestural: "you can turn the regular pizza's into candy pizzas," spatial: "also when you go to play bean counters, there is a certain spot that you click and jellybeans come out," and the auditory mode: "I think it kinda [sic] sounds like a fart!"

Through her integration of multiple modes of communication, Megan illustrates how her engagement with the site encompassed critical thinking, analyzing, and problem solving skills in statements like, "To catch the mullet you wait until all the evil things go by, then put a fish on your line. So you can catch the mullet." In a very real way she needs to not only understand how to use the site's affordances, but also to be able to demonstrate this understanding to others in her description of the steps needed to catch the 'Top Secret' mullet.

In her paratext, Megan also demonstrates her ability to utilize the classroom skills characteristic of her language arts lessons. This includes her ability to analyze the game in a literary way (i.e. summarize, to give direction, and to organize the knowledge of her play in a recognizable sequence of steps and/ or events). She indicates that she has sizable technology skills working in concert, such as sharing 'cheats,' showing alternate ways to beat levels and giving keyboard shortcuts. In addition to this creative game play, her paratext suggests that she is building upon valuable literacy skills that includes being able to interpret the question being asked, use the screen as a guide to share information, and critically select and combine information in a strategic way. This in turn revelaed how children can use particular information and strategies the teacher emphasized elsewhere in the curriculum through the paratextual devices drawn from their online activities.

KENDRA

Kendra was an avid player of *Club Penguin* and read beyond the grade level average for the class. At home she played on the site with her father, who she described as an enthusiastic gamer. Kendra had a very large collection of *Club Penguin* paraphernalia, and was considered an expert player amongst the other children. Her teacher shared that Kendra demonstrated excellent reading and writing skills, particularly when she was interested in the task at hand. She was very creative and imaginative in her play observed in the classroom with her toys.

Kendra's Paratext

> There are many secrets around the islands of *Club Penguin*. Here are just a few of them. Have you ever seen someone make a funny noise while a music emote comes up? First you have to make sure that your not writing anything in the chat box. Then press E and T at the same time. It should work! Have you

> ever wondered how to catch the mullet? I can only give you a hint. He doesn't like worms. Try experimenting with other things to see what he likes. Is regular Bean Counters too easy for you, try expert level! There is a tiny loose string at the bottom of the coffee bag. If you find it click on it, then Jelly beans will come out. Click on the Jelly beans and then you would have a choice between hard, expert or extreme Good luck! Next up, we're going to the plaza to play Pizzatron 3000! Ready for dessert? Lets make candy pizza! To make some, click on the lever on the machine to change it to candy pizza. Play ahead! Wanna [sic] get a new surfboard for catchin' [sic] waves? If you're a member, bring up the surf catalogue and click on the W in 'Waves'. If you have enough coins, buy it! Waddle on Club Penguin!

The newspaper article exercise asked students to share knowledge from their creative digital play interactions, and to use their classroom abilities to write a directional text, in order to bridge the gap between these two learning spaces. Kendra was extremely engaged and interested in the topic at hand. As a result, her paratext showed a higher level of academic engagement that was not representative of other students' responses. From the first line of her text, she invites the reader to engage in her creative and imaginative on-line play. She explained how to play following the trajectory she would have followed when engaged in online play. As was the case with Megan, Kendra also creatively used various multimodal affordances to describe the games' actions—the visual mode: "There's a tiny loose string at the bottom of the coffee bag," gestural mode: "If you find it, click on it, then Jelly beans will come out," spatial modes: "Then press E and T at the same time," and auditory modes: "Have you ever seen someone make a funny noise while a music emote comes?"

Kendra's paratext demonstrated interesting uses of critical and analytical thinking, as well as problem solving skills. However, like the game itself, she rarely gave explicit instructions. Instead, she offered creative clues as to how to engage in advanced play, and encourages the reader to solve the problems themselves, as she had done. For example, she would ask, "Have you ever wondered how to catch the mullet? I can only give you a hint. He doesn't like worms. Try experimenting with other things to see what he likes." To explore this clue, the gamer would have to try many different techniques, requiring them to be creative in their thinking to solve the problem of the game. By telling her reader what the game character doesn't like, she provided enough of a clue to draw them further into the game's process, and to think more analytically, critically and problem solve creatively. Another demonstration of Kendra's problem solving skills was indicated in her statement, "Ok, first go to the cove, then press the sheet of paper in the bottom right corner. Press the words and walla!" Here, Kendra demonstrated not only the skills of deduction and problem solving, as she had already worked through this particular sequence of events, but also the ability to expound, on paper, a step by step process that others must take in order to progress. By encouraging others to develop their own critical thinking and problem solving skills, she displayed an understanding of the meta-text that drives

Club Penguin; the designers of the site encourage a high degree of problem solving and critical thinking within the structure of the game. This also aids in the creative experience for the player. Kendra tapped into this philosophy and used it to frame her own explanations.

Kendra's paratext also demonstrated math skills. One particular game she talked about in her paratext is 'Bean Counters', a game that involves not only critical thinking, but the ability to work with and understand numbers. Since Kendra was providing hints on how to solve the problems, she was demonstrating a specific set of math skills that she used to progress in the game. Kendra also demonstrated knowledge of basic technology, such as how to properly use a keyboard and a mouse to navigate through complex virtual worlds. In her paratext she stated, "Then press E and T at the same time," and "Click on the Jelly beans and then you would have a choice between hard, expert, or extreme. Good luck!" Kendra's involvement with this assignment also indicated an understanding of money, and the idea that things have monetary value, as she stated, "If you have enough coins, buy it!" She expressed her interest in the ability to save a certain number of coins in order to eventually purchase things she wanted, which aided in her creative play on the site. This was not only an indication of basic budgeting skills, but also knowledge of responsibility and organization. It was only when she engaged in writing about the game that these skills were voluntarily put to use and displayed so comprehensively.

HANNAH

Hannah's mother described her as a well-rounded child and a serious *Club Penguin* gamer. She was very involved in all sports in school and enjoyed dancing and swimming on the weekends. She liked to help out at her church on the weekends and liked that her many church friends would chat and share secrets at the socials held after service. She shared their church pastor thought it was "neat" how they connected through *Club Penguin*. Her classroom teacher said she was quite creative, technically savvy and shared her expertise with others in the class.

Hannah's Paratext

> Hey! Over here! Do you want to hear a secret? Oh! Lets get started! First of all, theres a Bean counters Secret. Oh. Go into the Bean Counters. Menu, do you see the big bag? Well there is a little string. Click on it. When the Jellybeans fall out keep clicking on them. Then you can click a harder level. Next up, the Pizzatron 3000 secret. So when you get to the Menu, You will see a little lever in the corner. Click on it and it will change to candy. Hit Play and you will make a candy Pizza! OK number 3! Do you ever get tired of surfing on the regular yellow surfboard? What about a silver one. Go to C the cove and press the catalog. Hit the "W" in waves (at the top) and up pops the silver surf board! Hey have you ever wanted

> to catch the prize mullet in ice fishing? Well let me just tell you this, he likes smaller fish! Oh so keep going until there are no more obstacles then you will see him appear. Wait till he's clearer, and... wait(!) You have to have a fish on your line! Then Bam! He's yours. Ok. I have one more thing. Try pressing EP on your key board. Then expeirament with the other letters! Bye!

Hannah's paratext revealed that the exercise was useful in the classroom setting because she was writing about her gaming passion. Since she was confident in her own knowledge concerning Club Penguin, she was enthusiastic and actively engaged in the writing process. Hannah shared a wealth of information concerning her avid knowledge of how to navigate through the game, including some of her strategizing skills, how she was able to get ahead in the game, and how to play new games. Within her paratext, readers can identify many of Hannah's developed academic skills such as her ability to summarize from a mere portion of reading, her critical thinking, and her ability to evaluate. She presented the ability to think critically about the information that was presented in order to solve the issue, given the clues provided. For example, when attempting to explain how one would catch the prize mullet in ice fishing, she stated, "Well let me just tell you this, he likes smaller fish! Oh so keep going until there are no more obstacles then you will see him appear." Here, we are able to discern Hannah's ability to think critically about how to achieve a specific goal, in this case, how to catch a prize mullet in ice fishing. To achieve such a goal, Hannah demonstrated the ability to think about feeding the mullet smaller fish, as she adhered to the given clues. Her paratext, therefore, indicates her ability to critically think and analyze a given situation when provided with only small parts of a whole. Hannah's sophisticated writing style and skills within her paratext also demonstrates her academic skills and literacy. She only makes small errors, such as her spelling of "expeirament," and demonstrates advanced writing techniques such as imperative tense and commands such as "Click on it." Her paratext also demonstrates an active voice when she asks, "Do you ever get tired of surfing on the regular yellow surfboard?" Hannah used these rhetorical questions in her paratext, demonstrating the ability to enhance her analysis and capture a readers' interest and keep them engaged. She demonstrates a mature writing style providing a potential reader with a visual aid: "yellow surfboard…a silver one," gestural aid: "you have to have a fish on your line," spatial aid: "Go into the Bean Counters, do you see the big bag?"; "Well there is a little string. Click on it."; "Hit Play and you will make a candy Pizza!", and auditory aid: "Then Bam!" in her descriptions.

Hannah's paratext also demonstrates her problem solving skills. She described a specific plan of action in which to accomplish tasks and problems within the game. She gave a detailed description of how to overcome specific issues and reach specific goals. Her description of how to catch the prize mullet in ice fishing not only demonstrated her ability to critically think, but also her ability to solve problems. The problem presented was that a player must undergo a series of tasks before they are able to catch the prize mullet. Hannah explained this series of tasks, indicating

that she possesses the problem solving and organization skills necessary in order to solve this problem herself. She explained that, "…he likes smaller fish! Oh so keep going until there are no more obstacles then you will see him appear. Wait till he's clearer, and…wait (!) You have to have a fish on your line! Then Bam! He's yours." Hannah's paratext demonstrated not only her well developed writing skills, but also her creative ability to critically think about issues she was presented with, and her problem solving skills as she indicated the steps and processes that must be undertaken to solve the problems with which she was presented.

IMPLICATIONS FOR LEARNING

Kendra, Megan and Hannah displayed a lot of confidence as readers and as producers of multimodal texts when they were given the opportunity to participate based on their screen-play. Their written responses show they have both the ability and the inclination to think in a multimodal capacity in order to explain their gaming instructions. Creatively thinking about and writing an explanatory text for another player, as a multimodal connective piece, is a challenge. Students had to recall the narrative storyline of the virtual play activity, then share both their personal understanding of the game and the critical knowledge they have garnered through game play. This type of reading and writing engagement shows how the children engage in an intertextual reading of many types of texts on the screen. The integration of the modes within the gaming text enhances, and can transform, how a player draws meaning from the text.

Their gaming paratexts reflect and reinforce not only digital literacy, but also learning objectives that are foundational to the school curriculum, such as critical thinking and problem solving skills. Participating in these game paratexts had the unexpected benefit of encouraging children to practice organizing their thoughts, which was required in order to first complete and then explain how to progress from one stage of a game into another. This assignment was directly relevant to the grade four language arts program at the school. In order to follow directions on the site (i.e. in the form of hints and clues) and to solve unusual math problems, the children had to be able to identify key words then analyze, organize, and explain this knowledge orally or in written form. Kendra's assignment, in particular, indicated how paratexts reinforce a child's critical thinking and problem solving skills. She created a challenge, ensuring that the reader would have to try several techniques and think critically about how to solve the problem at hand, while also demonstrating her own critical thinking and problem solving skills, having already solved the problem herself. All three children demonstrated a necessary level of critical thinking and problem solving. They also demonstrated knowledge of organization as well as cause and effect in that each step led to another step, which eventually led the gamer to achieve a specific goal.

As children take part in game paratexts, such as in this assignment, they are taking part in traditional print literacy, while embracing an activity they are equally passionate about. The paratext writers had to build a bridge between their online

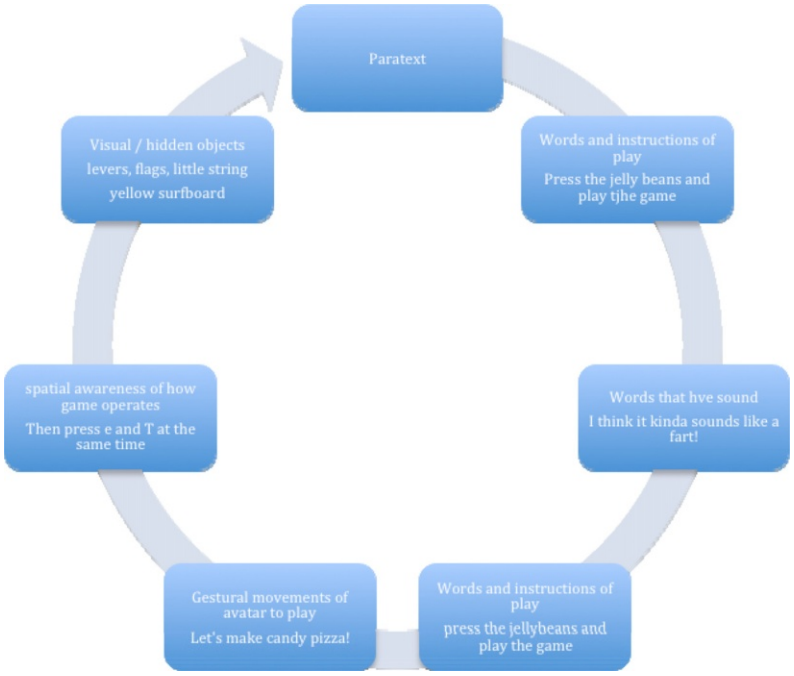

Figure 2. Modal Integration in Club Penguin Paratext.

activities and the classroom texts commonly given as an assignment. The challenge of this text required students to think through a multimodal lens as they engaged in the writing process. In order to effectively explain the games' rules and affordances, they were required to think about writing as something beyond a mere classroom activity, and instead as something that related to the 'real' world of their gaming. Megan, Kendra and Hannah were able to model Apperley's (2010) "reciprocal process" (p. 119), where there was an interaction between them as users and the knowledge required by the game that could then be put to use in a classroom context.

CONCLUSION

The paratext engaged the children to use creativity, think divergently and to use the multimodal facets of the game to complete a language arts assignment. Consequently, this classroom writing activity invited children to fluidly share skills that are of benefit in both the classroom and in their virtual play sites. One of the key findings in this study is that the use of virtual playgrounds, such as *Club Penguin,* can create avenues to fuse offline and online play. This is particularly true when literacy writing engagements are developed using multimodal texts of interest such as paratexts, as children in the study often role played a multiplicity of identities created around

the narrative storyline of *Club Penguin.* The teacher acknowledged that children invested much time in the maintenance of their virtual pets and penguins, and this shared interest among children was a big part of the creative play in the classroom. The inclusion of the *Club Penguin* paratext acknowledged the importance of such play. One of the suggestions for future study, however, would be to find out more about the parents' understanding of their children's literacy and digital play. The teacher mentioned that some parents did not approve of the school's use of language arts instructional time for play in virtual worlds, while others thought that the online games should be used only at lunch time, and finally some for socializing and maintaining friendships.

As this research concludes, digital gaming worlds can have significant impact in the field of education. The study shows how easy it is to incorporate this into the classroom environment, and how students can achieve if given text that motivates them. The use of digital game paratexts in the educational setting can be a great starting point for two reasons. One is that paratexts "require less experiential and technical knowledge of digital games to teach" (Walsh, 328). Second, students are already familiar with these technological advances from out-of-school practices. The main goal is to hope that teachers will develop lesson plans that can address students' motivation in accordance with gaming worlds.

Although the teacher did harness the creative gaming literacy practices of participants through a paratext designed to reveal their online accomplishments, it was noted by the teacher that the paratext gave limited opportunity for creativity outside of the *Club Penguin* site's particular narrative voice. Student interest in writing the paratexts was ascribed to the narrative tales around the immersion of their penguin avatar selves. However, the concepts of multimodality invite researchers and educators to see multimodality as a creative force in textual creation. Nonetheless, as a paratext, it also harnessed two of Apperley's requirements for these devices (p. 122). First the *Club Penguin* exercise did not require the teacher herself to understand the totality of the game, so much as it required her to understand how it could be utilized as a platform for the children's writing. Secondly, it made the connection between gaming and the writing skills required for their language arts studies explicit for the students.

The teacher's desire to find space for the children's virtual play was accomplished by giving instructional time for the children. More importantly, however, was her valuable understanding of her children's digital literacy practices within the virtual space of *Club Penguin*. She included *Club Penguin* books, posters, and toys within her classroom space, as affordances to enhance their play and creativity. By using a paratext associated with the children's home gaming engagements, she connected their exhibited game playing skills of critical thinking, problem solving, and analytical processes, not to mention creative outputs to further inform their learning of traditional language arts texts, such as a newspaper story. Her efforts allowed children to see that their online and offline lives were simply extensions of their

multimodal textual abilities, and, as such, the gap between their online play and their classroom work was much narrower than any of them would have thought.

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SECTION TWO

MASSIVE MULTIPLAYER SECOND LANGUAGE LEARNING

JASON YJ LEE & CHARLOTTE PASS

5. MASSIVELY MULTIPLAYER ONLINE GAMING AND ENGLISH LANGUAGE LEARNING

BRIEF HISTORY OF ENGLISH LANGUAGE LEARNING: WHO IS THE ENGLISH LANGUAGE LEARNER?

Understanding how second language (L2) learners (those learning English as an additional language) are represented in English language learning research promotes an understanding of the history of English language education. Mitchell & Myles (2004) categorized views toward L2 learners among English Language learning (ELL) scholars into three perspectives: the linguistic perspective, the social psychological perspective, and the sociocultural perspective. These perspectives are addressed in sequence below, to demonstrate the history of English language education.

From the linguistic perspective, the goal of linguists was limited to observing the linguistic system. Based on such observations, English language learning researchers in the late 1960s posited that errors made by the L2 learners did not reflect actual errors; rather, they maintained that the "errors" represented a legitimate language constructed through the systematic stages of acquisition. For example, Corder (1967) focused on the errors made by language learners, referred to as error analysis. This process focused on the language production of the learner rather than the deep structure of the language. Later, Selinker (1972) introduced the term interlanguage to represent the language produced by ELLs. Building upon error analysis, Selinker (1972) considered language errors as indicative of systematic stages of acquisition. In other words, interlanguage was recognized as a structurally intermediate language developed between an L2 learner's native language (L1) and their second (or additional) language (L2). Consequently, linguists and psycholinguists became interested in how L2 learners cognitively process language. Given their focus on the neurological aspect of language, it was easy for them to overlook the social aspect.

The second perspective of English language development is the social psychological perspective. According to this perspective, L2 learners possess a universal trait: legitimate and systematic language learning. In reality, however, L2 learners often experience varying rates of progress in language development. This differing pace of language learning cannot be explained through the linguistic perspective; therefore, social psychologists examined the individual differences in L2 learners, which evolved into the social psychological perspective. In this perspective,

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 91–101.

the L2 learner's learning style was taken into consideration. Keefe (1979) defined learning style as the "cognitive, affective and physiological traits that are relatively stable indicators of how learners perceive, interact with and respond to the learning environments" (p.4). Based on Keefe's definition of learning style, cognitive factors relate to language learning strategies, and affective factors impact motivation. This means that, depending on L2 learners' learning strategies and motivation level, the rate of language acquisition varies. Similarly, Ehrman and Leaver (2003) offered supporting evidence by identifying and introducing nine different learning styles (e.g. field independence, inductive-deductive, leveling-sharpening, etc.) in English language learning. They continue to assert that these nine different learning styles correlate with one another, or individually, creating a variety of possible combinations and differences among the language learning rate of students.

While the linguistic perspective focused on the universal aspect of the learner, and the social psychological perspective concentrated on the individual learner, the third perspective (sociocultural) views the language learner as a social being. By doing so, the language learning process is viewed through a social lens, and learners are considered to be social beings in a context, rather than as independent individuals (Mitchell & Myles, 2004). In the early 1980's, Long (1983, 1985) argued the importance of interaction. Since input is important for ELLs, to understand the nature of the input, it is important to learn the interactions in which L2 learners engage. This concept developed into an interaction hypothesis. For example, Swain's (1985) comprehensible output hypothesis posits that L2 learning takes place when the learner encounters a gap in knowledge of the new language and modifies output accordingly. Such a cognitive adaptation promotes English language learning in a way that differs from input based because of the different cognitive skills required. Since sociocultural theorists have different views about interaction, Long's and Swain's arguments do not fully align with the sociocultural perspective. Interaction is considered an effective means for input in the interaction hypothesis, but in the sociocultural perspective, interaction itself is considered a social aspect of the learning process (Mitchell & Myles, 2004). Following this social aspect of learning, Soviet psychologist Lev S. Vygotsky's philosophy has given insight for English language learning. Since the 1990s, James Lantolf has advocated the application of Vygotskian theory to English language learning (Lantolf, 1994; Lantolf & Appel, 1994). In recent English language learning, the constructivist, sociocultural view has been used in education. Therefore, the learner is now viewed as a collaborative social being.

Thus far, this chapter has chronicled the role of L2 learners in English language learning research. Paradigm shifts have occurred, and L2 learners, formerly viewed as individual learners, are now considered social beings. Therefore, providing L2 learners with a social environment can determine the success of their L2 learning. Given the fact that MMO gaming provides a social environment for the players, it could be considered a suitable environment for language learning.

RESEARCH AND BENEFITS OF MASSIVELY MULTIPLAYER ONLINE GAMING IN RELATION TO ENGLISH LANGUAGE LEARNING

Massively Multiplayer Online Games as a Tool for English Language Acquisition

Massively Multiplayer Online (MMO) game environments have potential in language learning because of the interactive and collaborative community they provide (Nardi, Ly, & Harris, 2007; Peterson, 2010; Steinkuehler, 2007; Thorne, 2008). Because of this rich context for language learning, many researchers have applied MMO games to language learning. Using the linguistic perspective, researchers (Bryant, 2006; Palmer, 2010; Rankin, Gold, & Gooch, 2006; Steinkuehler, 2007) have studied the development of vocabularies, literacy skills, speech acts and modal verbs. Researchers (Black, 2008; Choi, 2006; Lam, 2000, 2004; Peterson, 2010; Thorne, 2008; Thorne, Black, & Sykes, 2009; Yi, 2007; Yee & Bailenson, 2007) have also observed the importance of the affective aspects in language learning, such as motivation or anxiety. Because MMO game environments are open and social, various language scholars (Peterson, 2012; Lee & Gerber, 2013) have studied the social aspect of language learning in MMO games.

The Linguistic Approach

Researchers' attention in MMO and English language learning has led ESL researchers to focus studies on the linguistic domain of language learning. Consider Steinkuehler's (2007) use of the game *Lineage 2* to develop players' literacy skills in multiple practices such as writing, presenting, poetry and debating. Researchers have also examined vocabulary studies in the MMO game environment. Rankin et al. (2006) discovered that college level students increased their L2 vocabularies after playing the MMO game *Ever Quest 2*. In addition, Sylven and Sundqvist (2012) found that children aged 11 to 12 years old who played more than 5 hours of MMO games possessed larger L2 vocabularies compared to the non-gamer control group. Furthermore, other researchers (Miller & Hegelheimer, 2006; Ranalli, 2008) have shown that MMO gaming is helpful in L2 vocabulary acquisition if it is paired with vocabulary lists or exercises. Palmer (2010) discovered that gamers develope Spanish speech acts through playing the game *World of Warcraft*. She contended that social interaction and communities of practice were the important aspects in developing writing and speaking in MMO games. Additionally, a few game players have developed German modal verbs through playing *World of Warcraft* (Bryant, 2006). In this study, Bryant played a German version of *World of Warcraft* with the study participant and acted as a facilitator in the study. He focused on assisting the participant in using modal verbs in multiple situations while playing the game. The subject gradually learned and used the modal verbs through game chat in *World of Warcraft*.

The Affective Approach

The affective approach is based on human emotions or feelings. According to Brown (2007), the affective domain is tightly woven into human behavior. He adds that language is such a pervasive phenomenon that it cannot be separated from a person's life (Pike, 1967). Therefore, understanding the affective domain in English language learning is important (Brown, 2007). Similarly, Krashen (1982), in his affective filter hypothesis, asserted that language is best learned when the anxiety (affective filter) is low.

Some researchers have found that in a computer mediated conversation or MMO game setting, the affective aspect buttressed the L2 learner's language learning. Lam's (2004) study illustrates how online communities can empower language learners, which transfers into increased English fluency. Black (2008) and Lam (2000) contend that supportive feedback in online community literacy activities helped their students to build 'counterbalance' (Yi, 2007, p.35) and to overcome difficulties in the English language classroom (Thorne, Black, & Sykes, 2009, p.807). This counterbalance increases the confidence of language learners whether they are in language classrooms or cyberspace. Writing in the MMO game environment occurs in various forms, i.e., chatting (interaction), forum participation, blogs, and fanfiction.

Using an MMO gaming perspective, Thorne (2008) proposed that intercultural exchanges in the game *World of Warcraft* lead to increasing motivation in language learning. Further, Peterson (2010) argues that role playing games (RPG) can lower inhibition during emerging conversation. Yee and Bailenson's (2007) Proteus effect study reveals that the players' interactions were influenced by their virtual avatar and their awareness of how they were viewed by others. Their research concludes that the more the players were aware of their avatar appearances, the more this awareness impacted their negotiation of behavior. This study doesn't directly relate to English language learning education, but it does relate to how appearances influence the learner's interaction behavior.

Another important factor of the affective domain is motivation. Not only in English second language learning research, but also in various other types of human research, motivation is essential for learning (Dornyei, 1998). Various kinds of motivation, especially intrinsic motivation, are the most powerful determinant of successful learning (Deci, 1975). Thus, MMO game settings have the potential to increase the intrinsic motivation of English language learners. Choi (2006) argues that MMO settings attract players to become immersed in the game and help maintain motivation to continue playing the game. In Choi's research, she asserts that MMO games have three elements that increase the motivation level of the players.

First, the storyline of MMO games stems from a fictional mythologem, defined in Jungian psychology. Jung observed various dreams and found similar patterns of fictional mythologem elements that appear regardless of race or cultural background. Choi argues that this fictional mythologem stimulates the unconsciousness of the

players, drawing them to the MMO game. Moreover, this similarity between the patterns that Jung observed in people's dreams compels players to continue to play the MMO. A second motivator is the open concept of the storyline, which promotes increased interest in delving into the story of the MMO game. This open concept elicits feelings among the players that the game is a never ending story. Moreover, it brings players back to the game. A third motivator is the straightforward concept of the protagonist and antagonist. This element encourages the players to take on specific roles to increase their enjoyment of the game. While Choi's (2006) research does not specifically relate to English language learning, it does underscore the motivational aspect of MMO game play and provides a rationale for why players continue to play MMO games.

The Sociocultural Approach

Sociocultural theory (SCT) in language learning focuses on the social situation and the mediated nature of mental activities (Vygotsky, 1978). From this point of view, language development is based upon interactions in a social context (Rama, Black, Es & Warschauer, 2012). MMO games share this perspective, because they contain a social context for language learners to experience. Peterson (2012) analyzed four EFL (English as a Foreign Language) learners' linguistic and social interactions in a MMO game setting. In the study, the participants showed an appropriate use of politeness, such as greetings, informal language, small talk and humor. Peterson argues that the MMO environment provided the EFL students' with a collaborative situation for social interaction. Lee & Gerber (2013) also linked English language learning and the MMO game *World of Warcraft*. For this research study, a 21 year-old Korean male's game play of *World of Warcraft* was observed for a period of one year. The game was played in English, which was the target language for the participant. The researchers found three distinctive patterns of the participant's English language development. The first pattern was his reliance on his native language (L1) functions. The participant showed patterns of using his first language functions to communicate in his L2. This refers to his memory of his L1 knowledge, because he recalled his language functions from his L1. The second pattern was that the participant started to 'pick up' language from other players' interactions. The third pattern was that the participant began to communicate comfortably with the other interlocutors in *World of Warcraft*. In this study, Lee and Gerber found that the learner's language developed from the influence of the community of *World of Warcraft* and the social interactions in the game.

MMO as an English Language Acquisition Tool

According to Gee (2003), high-quality games possess the following six characteristics:

- The games' education components are hidden.
- The games are interactive and nonlinear.

- The games encourage exploration by rewarding players.
- Players can choose to assume the 'protagonist' character or the 'antagonist' character so they may experience both perspectives.
- The games encourage players' creativity.
- The games have more than one correct answer or means for accomplishing the same objectives.

In Gee's opinion, these six elements construct a good game for players to enjoy and motivate them to continue to play the game. MMO games share these six characteristics. More importantly, MMO games have hidden forms of educational components. For example, the Korean MMO game *Goonzu* (Wi & Won, 2009) fosters an understanding of the political system for elementary students. Because the *Goonzu* MMO game incorporates an election system, the students took time and effort to select the candidates and participated in the election. *Goonzu*'s structure mimics the political system and allows players to enjoy the game while acquiring a deeper understanding of the election system. This alternative approach to the game provided students with an alternative view of the game, which enables this MMO game to be an educational tool. For instance, MMO settings are interactive because players need to communicate with other players and with other game-related objects. The structure of many MMOs cannot be fully enjoyed alone since MMO games reinforce collaborative environments. Collaboration play occurs in the form of group activities, such as killing a stronger boss together or group quests, when multiple players of different classes are required to advance the quest. Reward systems in MMO games take various forms, such as rare items or a status indicating accomplishment that other players can recognize. Players in MMO games can enjoy both the protagonist and antagonist viewpoint in the game's storyline.

To illustrate, *World of Warcraft* and *Starwars: Old Republic* have different sides for players to choose: Alliance or Horde in *WoW*, Republic or Empire in *STWOR*. Each protagonist or antagonist represents a unique style of storyline for players to experience. MMO environments thus promote the creativity of players and does not necessarily represent a single experience or solution. In boss fights, for example, there is more than one way to accomplish the task of beating the opposition. Depending on the player's skill level and knowledge of the game and class, it can be accomplished in different ways.

Community

MMO provides players with an interactive and collaborative community. In the MMO environment, players communicate, play together, trade items and learn the system of the game that is closely related to real life settings.

Based on Vygotsky's (1978) sociocultural theory viewpoint, language learning should be in an interactive environment. However, language learning classrooms often fail to be a social, interactive community. Average language institute classrooms have different group dynamics compared to the social life of community

dynamics. For example, in a community there is a mixture of native speakers of the target language, but also English language learners as well. However, since language learning institutes are built specifically to learn the target language, the classrooms are filled with English language learners. This group dynamic is quite different from the community group dynamic. In sociocultural theory, language is best learned when it is socialized in the community. However, the language institute classroom does not reflect this part of the theory. Another difficulty that English language learners confront is that the classroom interaction does not necessarily serve the purpose of communication. In other words, it does not reflect the personal needs of the language learner. Although the instructor will provide themes with purposes, those themes are not necessarily authentic, nor do they provide what language learners need to function as a community member. Because language is used differently in multiple contexts, if it does not meet with the language learner's interest, then there can be difficulty in learning. For example, if the learner is interested in watching movies, then he/she would want to learn more about the language used in a movie context.

Massively Multiplayer Online Gaming settings are different because the purpose is clear, a focus on gaming. Players focus on exploring the game content or learning game mechanics. For ESL learners, language in this situation is used as a supplement. Although language acquisition is not the goal, it is a benefit of playing the game and participating in the MMO community.

While Gee doesn't include English language learning in his list of characteristics of high-quality games, MMO games share multiple aspects that could be beneficial in English language learning education. MMO games can provide players with motivation and a collaborative environment, according to Gee (2003), two aspects that have an important role in English language learning.

SUGGESTIONS FOR PRACTICING FOUR LANGUAGE SKILLS THROUGH INTEGRATION

Based on the sociocultural theory of language acquisition, language needs to be social and used in an interactive community. Considering this framework, MMO games can be suitable for enhancing the speaking aspect of English language learning, yet MMO games have the ability to address reading, listening and writing skills as well. The following section describes possible suggestions for using MMO games to develop reading, listening, speaking and writing skills.

Reading

Freire and Macedo (1998) describe the complexities of language by focusing on the single literary act of reading, noting, "Reading does not consist merely of decoding the written word or language; rather, it is preceded by and intertwined with knowledge of the world… [l]anguage and reality are dynamically connected" (pp. 8-10). Consequently, for L2 learners, the acquisition of knowledge about multiple contexts

is necessary for language learning and for becoming less marginalized by the lack of language proficiency. Massively Multiplayer Online Games can provide myriad contexts to enable such learning to occur.

Consider, for example, that the setting of MMO games requires players to read the game. In other words, everything that players encounter in the games is in a reading format. Players read the quests off of NPCs (Non Player Characters) and interact with other players through a chat format. Reading does not stop there, though, due to the large storyline of which MMO games consist. There are other supplemental reading materials that are not specifically associated with the MMO game.

First, there are novels and graphic novels. Since MMO games are based on a broad spectrum of storylines, novels and graphic novels aligned with the MMO games can disclose other parts of the storyline that can help players to understand the world of the MMO game. Second, there is fan fiction, which is created by other players who enjoy the game content. They create their own story that could be considered a spin-off from the original story. The readings in fan-fiction are based on informal writing, but they share other insights about the game story that come from a fan's perspective. Third, there are blogs and forums. An MMO game is a very complex system; so players need to study the mechanics of the game knowledge. For example, types of items to acquire or explanations of boss fights are clarified in blogs or forums.

These various contexts of reading can be used in ESL settings. Researchers (e.g., Ryu, 2013) refer to this beyond game culture as after game culture. Additionally, according to Ryu's research, participants enjoyed the after game culture, and motivation was high to continue to explore the after game culture. With regard to classroom instruction, novels or other web posts may be used to aid students' reading as part of the after game culture. Since the context of the reading materials is familiar to the students, they will find it much easier to engage with the additional readings.

Listening

Listening is limited in MMO settings because the communication is done mostly through chat format. However, as the player progresses toward the end game content, communication becomes a vital factor. When the MMO game gets harder and the pace of it gets quicker, the need to communicate spontaneously and immediately becomes inevitable. Players use third-party programs to communicate verbally with other players. Since not everyone is required to speak verbally, ESL students can take their time to listen, and forget about immediately responding to the interlocutor. This additional time can lower the anxiety for ESL learners by giving them time to think and respond.

Speaking/Presenting

Speaking and presenting are different skills, but for this purpose, they are being combined because they both represent expressive language. For example, expressing one's thoughts can also be considered a form of speaking.

In MMO game settings, speaking and presenting occur in text forms. For ESL learners, this is an advantage because they do not need to worry about accents, pronunciation or quick responses to other players. Like the listening component, ESL learners can take time to read the text and respond, which can lower their anxiety level. Also, the instructor could preview the text and anticipate the issues that the ESL learners could be having.

Writing

Writing in MMO games can be related to speaking and reading. Since MMOs follow a chat format, communicating with others is a writing activity. Additionally, when participating in blogs and forums, players need to write to discuss and collaborate with others.

For ESL learners, writing can be done informally through chat or by keeping a game journal blog. Formally, writing can be done through writing fan fiction or a reflective piece of game play.

DISCUSSION

In this chapter, we looked at the current trend in English language learning, sociocultural theory. According to the sociocultural theory approach, language needs to be social and learned from an interactive environment through collaboration. In this sense, MMO games can provide English language learners with a social, collaborative environment. In addition, MMO games have the potential to provide intrinsic motivation for learners and promote a habit of continuing to study the English language. Implementing an MMO game in the classroom might be premature at the moment, yet MMO games can still provide a wonderful opportunity for supplemental instructional material in the current language classroom. Moreover, MMOs can provide ESL learners with authentic language acquisition via experience and interaction as endorsed by Krashen and Terrell (1992).

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JAVIER CORREDOR & MATTHEW GAYDOS

6. LANGUAGE GAMES

How Gaming Communities Shape Second-Language Literacy

The Internet has created spaces for second-language learning that are fundamentally different from spaces available fifteen years ago. These new, Internet-enabled spaces allow for bilingual participation in complex shared social activities. Young people all over the world watch, listen, read and learn from content produced in languages different than their own almost every day. They also have the opportunity to interact with people who speak a different language via tasks that require collaborative action around common goals (Jenkins, 2006). The multimodal, cross-cultural nature of these activities has enabled new types of bilingual interaction. From these interactions, global communities have emerged, including participatory networks gathered around videogames, fan fiction, and other cultural objects (Ávila-Toscano, Gutiérrez & Pérez, 2011; Jenkins et al, 2009). These communities use several channels of communication including blogs, chat rooms, and social media, which afford them the ability to not only hang out together but also to exchange different types of resources. The availability of new, bilingual, cultural objects, in turn, widens the spectrum of possible worlds from which young people today can build their identities and improves the possibility of being bilingual in a way that is socially relevant, and not just (as in traditional second language learning) another curricular obligation.

This chapter explores the characteristics of bilingual interaction in the context of gaming communities in Latin America, as reported by videogamers in Bogotá, Colombia. The most relevant findings of a year-long qualitative study in gaming communities are presented and interpreted according to current literature in game-based learning, bilingualism and situated learning. Specifically, this research focuses on the dynamics of Massively Multiplayer Online Role Playing Game (MMORPGs) communities in Latin-America and the way in which their bilingual and situated nature helps players to develop reading and communication skills in a second language. The study shows that MMORPG gamers display linguistic behaviors similar to those of bilingual speakers, even though they live in a context where no bilingual interactions exist offline. More importantly, the study shows that these new linguistic behaviors arise because their gaming experience scaffolds a complex set of practices that modifies both the cognitive process and the sociocultural meaning that contribute to learning a second language. In this sense, bilingual learning in online videogames is not the *byproduct* of traditional learning practices, but the result of

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 103–127.

new forms of literacy. The basic claim is that bilingual interactions afforded by videogames have substantially modified the way that young people approach second language learning, creating a *de facto mestizo literacy*. That is, a literacy where several hybrid sources of activity and cultural traditions are negotiated according to pragmatic, identity and cognitive constraints. Mestizo literacies are blurring the frontiers between first and second languages through written interactions in online environments. This transition is allowed due to a radical transformation in the way that young people experience the second language. Today, mandatory formal ways of second language learning are being replaced by participatory, self-driven approaches to learning.

This study places itself in the intersection of two convergent research spaces from which second language learning in videogames can be understood: one is the space of online communities that interact to build meaning and negotiate public identities; the other is the space of online gaming as a resource for second language learning (Thorne, Black & Sykes, 2009). There is a large body of literature about the first aspect showing the existence of bilingual interaction within interest communities in diaspora spaces. Members of those communities produce hybrid forms of language, including complex forms of code switching, the development of transitional identities associated with linguistic forms in different languages, and the use of bilingual cultural codes in the production of fan fiction (Black, 2008; Lam, 2004). This article extends this research to show that the characteristics of diaspora communities can be observed in online gaming spaces. Regarding the second aspect, there is a specific branch of research on second language learning in videogames that focuses both on educational games as designed experiences for language learning, and on the informal emergent interactions produced in online communities of gamers. Literature regarding games specifically designed for language learning shows that these type of resources can be effective in decreasing errors in second language learners (Strik, Cornillie, Colpaert, van Doremalen & Cucchiarini, 2009). It has been also observed that games can be used to teach language pragmatics, although their effectiveness depends on participants´ approach to learning. That is, when the game is perceived as a space for experimentation, learning is better than when it is perceived as a set of tasks to be completed (Sykes, Oskoz & Throne, 2008). This research also shows that online immersive games designed specifically for language learning help participants to improve their language skills, particularly for learners with high levels of prior knowledge (Rankin, Gold & Gooch, 2006). Additionally, researchers have shown that participation in these communities can produce results similar to those produced by interactions with native speakers (Rankin, Morrison, McKenzie, Gooch & Shute, 2009).

Observations of interactions in communities around online games has also produced data suggesting that very rich patterns of second language learning might be happening around online videogames, and that those spaces are ideal contexts for language learning. Research suggests that by their own characteristics online videogames permit situated learning, community formation, risk taking and the

development of collaborative social relationships (Peterson, 2010). Research also shows that, in some types of games (such as MMORPGs), natural bilingual conversations arise, allowing students to perform complex linguistic exchanges such as the use of hybrid codes, or the complex negotiation of norms for participation (Leppänen &Piirainen-Marsh, 2009). This article extends this second line of research by showing that bilingual interactions are a byproduct of online gaming that change both power relationships and learning patterns related to second language learning.

BRIEF METHODOLOGICAL OVERVIEW

Given the qualitative nature of this study, findings are presented alongside relevant literature. The canonical structure of empirical documents (e.g., introduction, method, results) is not followed, because a holistic reading of findings was considered to be a more comprehensive way to present the educational implication of bilingual videogaming (Corredor, 2010). Data sources included in-depth interviews, products of virtual interactions, and on-site observations of individuals' interactions while gaming. Interviews were semi-structured conversations organized around two thematic axes. The first axis was related to the characteristics of videogamers including their evolution as players, their motivations for playing the game, their learning dynamics and their sources of information. The second axis focused specifically on the particularities of bilingual interaction in videogames. The aspects explored in this second axis included instances of interaction with players in other languages, the characteristics of videogame communication, and the strategies used to establish conversational rules. Forums were visited several times during the year and the information in them was copied to Excel files. The posts included in the sample taken from the forums covered a total of five years. That is, the oldest posts collected were written four years prior to the beginning of the study. Forums were chosen because they allowed us to retroactively examine recorded interactions over a long period of time.

Thirty-two gamers (eight women, twenty-four men) between the ages of 18 and 32 years old participated in this study; all of them were enrolled in or had previously completed post-secondary education. A convenience sample was used (Patton, 1990): participants were contacted through online groups, directly through flyers in several colleges, or through referral by other participants. All of them lived in Bogotá, Colombia. Because participants reported constant interaction with gamers in other countries, we assume that the results of this study present a relatively accurate picture of what happens in other parts of the continent. Participants were interviewed in two stages: an exploration stage and a confirmation stage. In the exploration stage, 17 regular gamers were interviewed with an unstructured interview script that was organized around the two thematic axes mentioned previously: the first thematic axis was related to the evolution of gamers within the gaming community and the meaning of MMORPGs as part of their personal identities. The second thematic axis explored bilingual aspects of gaming, including the frequency of interactions with gamers in

other languages, the characteristics of bilingual interactions, and the strategies they use to unveil unknown meanings, and in more general terms, to gain access to second language knowledge. From this interview, emergent categories were identified, and within those categories, frequent themes were isolated. For example, in the category of context, the growing access to the Internet was a frequent theme used to explain changes in gaming practices. In the confirmation stage, 15 gamers were interviewed. The two general thematic aspects were the same (gaming community and bilingual practices), but the interviewers had a checklist of emergent categories and themes to be covered. For the gaming community axis, the emergent themes included, among others, peer collaboration, games´ affordances, online resources, status and situated learning. For the bilingual practices axis, the themes included learning strategies, identity development, code switching, bilingualism, hybrid language, abbreviated expressions, advanced conversation, and culture. The process was divided into two stages to verify the categories produced by the first stage. As explained by Ericsson & Simon (1993), using all available data to create the coding categories means exhausting the degrees of freedom and preventing proper theoretical verification. By dividing the process into two stages, categories created in the first stage can be properly confirmed in the second one.

Participants were added to the study until saturation was reached (Bowen, 2008; Glaser & Strauss, 1967). All of the gamers interviewed for this study had more than 4 months of regular gaming experience (max: 10 years) and played at least three times a week. In the confirmation phase, 19 online forums devoted to MMORPG topics, groups or guilds were visited in search of examples to illustrate the themes identified in the interviews. Interviews were transcribed in Spanish and then translated to English by the researcher, trying to keep the style, the tone and the grammar used by participants in Spanish, including crutch words and other linguistic peculiarities. Some of the fragments presented here do not follow Standard English grammar, because they were translated to keep their original construction in Spanish, such as when a participant started a sentence and without finishing, switched to a different idea.

LEARNING LANGUAGE IN GAMES: LEARNING IN CONTEXT

Central to activity theory is the idea that individual development must be framed within the larger picture of social activities and the cultural practices in which learners engage (Steinkuehler, Black & Clinton, 2005). Individual development and social processes are interconnected, and changes in the social environment lead to new ways for individuals to develop and learn. By its dialectic nature, activity theory also states that changes in the social environment do not erase old practices, but that complex processes of negotiation happens between the old and the new practices, and between the different sources with which individuals are in contact (Engeström & Sannino, 2010; Vygotsky, 1978). Bringing this approach to literacy and second language learning implies asking what is new and what has changed with the advent of social online gaming. The results of this study suggest that language

learning in gaming resembles few formal school practices, but shares many aspects with how language is learned by native speakers. Language development in games is situated in the social context and cannot be separated from identity development. Rather, games afford new ways to communicate and support language and identity development through bilingual interactions in online environments that are socially relevant and free from geographical constraints.

MMORPG Affordances

Gaming and gaming communities afford second language development for several reasons. Steinkuehler and Williams (2006) suggest that gaming spaces are becoming third places for interaction for young people. Third places are social spaces situated between home and school that allow young people to socialize with few or no formal obligations. Third spaces are critical in building new connections and extending social networks (Oldenburg, 1989). When third places are located in virtual media, participants engage in playful interactions that grow from the diversity of resources available to Internet users. Resources distributed via the Internet are, by nature, multilingual. In online third places, communities of gamers emerge, creating ideal spaces for bilingual learning and interaction.

Gaming communities are not dependent on physical proximity (Steinkuehler & Williams, 2006). Social bridging allowed by virtual communities provides users the opportunity to get in contact with people outside of their immediate social networks and physical spaces (Corredor, Pinzón & Guerrero, 2011), which for the case of language learning implies the opportunity to interact with native speakers of different languages. Virtual communities connect people across countries and languages, and, for this reason, they allow participants to experience bilingual interaction.

The role of virtual communities in changing the dominant practices of literacy goes beyond allowing people to communicate with native speakers of other languages. The multimodal hypertextual nature of online interaction provides users with the ability to navigate through different formats and genres, and in using them, to build online selves. In a single Internet session, a participant can arrange a meeting to play an online game, look for a better strategy to achieve a game challenge or level – possibly in a forum written in a different language – and then switch back to the online game with his or her friends. While real life interaction is for most people, a single-language activity focused on content available in their physical space and therefore often constrained to their native language, game-based learning is constituted by activities that cross languages and culture. These types of activities allow gamers to build hybrid media by mixing content produced by users and taken from the Internet in several formats and genres (Steinkuehler et al, 2005). Hyperlinking, posting and sharing content is a core feature of digital literacy that in turn defines users´ participation in games and social media (Carrington, 2009).

Virtual environments including social media, chat rooms and other supporting spaces for gaming have other advantages for interaction in a second language. These

spaces constitute an intermediate step between real time interaction and written communication. For this reason, they provide learners with extra time, which can be used to look for definitions in online dictionaries or to reflect on records of past interactions. The nature of written interaction in these virtual environments may in fact facilitate the communication of non-native speakers in public environments (Jones et al, 2001). Additionally, the anonymity provided by many virtual spaces and the fact that interaction is not necessarily face-to-face may also help facilitate learning (Lapadat, 2002). In such contexts, learners may take risks and ask questions that they would not make under normal (non-virtual, non-anonymous) circumstances.

Finally, games permit situated participation and the creation of communities of practice (Shaffer, Squire, Halverson, & Gee, 2004). Sustained interaction in social media and online games allows participants to engage in activities that modify their identities and require participants to situate written texts in relationships with personal and social meanings. This characteristic comes in sharp contrast with traditional forms of second language teaching that is often disconnected from learners´ lives and experiences. Situated participation is pervasive in MMORPG´s because this type of game requires players to 1) build and upgrade characters based on game performance, and 2) to complete missions in collaboration with other players especially under game mechanics that entail responding to complex constraints. Through the process of solving these missions, players have to balance resources and coordinate with one another in order to exploit the characters´ characteristics, which vary from player to player. For example, different characters belong to different classes and have different specializations; they vary in the talents they have. So, players in an MMORPG need to collaborate and coordinate their actions to complete missions (e.g., defeating a monster), which in turn leads to the development of social organizations ("guilds") where learning acquires social and practical relevance. In this context, language use is not only possible but also necessary. For global gaming communities, this implies the rise of bilingual gaming practices.

BILINGUALISM, STATUS AND IDENTITY IN ONLINE AND OFFLINE COMMUNITIES IN LATIN AMERICA

Small bilingual communities that focus on dominant western languages (e.g., English, French) have existed for a long time in Latin American, but bilingualism was traditionally restricted to elite groups in large cities (De Mejia, 2005; Ordoñez, 2004) for whom knowing English was an asset that granted access to a privileged set of human networks and resources. The dynamics of English learning twenty years ago followed similar patterns to those identified in other parts of the world in relation to the distribution of symbolic capital and the protection of the status quo (Bourdie, 1977; Makin, Jones-Díaz, & McLachlan, 2007). Second language learning, particularly of high valued western languages, was a defining sign of status, a class marker of some sort. Outside of those spheres, learning a second language was seen as a curricular obligation with little to no use. Even when mandatory English teaching

was part of national curricula and assessment standards, most students saw it as a distant topic with no connection to their lives or identities. The Internet, however, has facilitated access to resources for learning English as well as an understanding of its value in many aspects of everyday life. Additionally, new digital media has broadened the chances of participation in global subcultures, social movements and aesthetic trends, in a way that gives cognitive, personal and social meaning to second language learning (Jenkins, 2006).

Second Language Use and Status in Gaming Communities

Prior to the advent of the Internet, English fluency and knowledge was predominantly a class marker, to which only upper class families could assign some practical value. Outside of those circles, English was seen as a valuable asset – in the sense it determined social positioning – but was seen as an asset belonging to others. With increased access to the Internet, and gaming in particular, English fluency has become a part of a broader network of meanings for underprivileged youths within gaming communities.

The evolution of English use within MMORPG gaming communities illustrates this transition well. As evaluated by interviews and residence location, most participants in this study come from unprivileged backgrounds. They are not quintessential globalized citizens whose destiny is to know the world, studying abroad and speaking a second language, as people from upper class families have done since the 18th century in Latin America. Their families are mostly monolingual, and their degree of spatial mobility is low. They seldom know someone who has traveled abroad, let alone someone who speaks a second language. They reside in poor urban neighborhoods where Internet connectivity at home is still scarce, despite several public policy incentive programs (e.g., low taxes for computers). In this context, gaming communities have adapted and evolved according to these constraints. Initially, gaming communities relied on small Internet cafes, called *chuzitos,* where several computers used a shared Internet connection and often used pirate/private servers with unlicensed copies of videogames. Participants reported that the first MMORPG servers available were based in English speaking countries, and older participants had no choice but to learn some English in order to play the game. Later, the availability of Spanish-based servers and of affordable Internet connections (and computers) increased, expanding the spectrum of choices for game-play. Many players migrated to Spanish or Colombian servers, and many starting organizing LAN parties at home.

The social value of English language fluency has evolved within gaming communities relative to these changes; initially necessary for game play, fluency became a status marker. Being English-fluent within the game implied that you started playing before Spanish servers, that you knew the game before it became fashionable in a time of limited Internet access, and that you overcame the many obstacles gamers initially faced in order to play. In this way, being English-fluent

signaled seniority within gaming communities. At the same time, being English-fluent meant that you knew your way through the cultural cross-paths of globalized gaming. Both English and Spanish-based servers confront gamers with an astonishing linguistic and cultural diversity, at least when compared to the localized (and some ways, provincial) experience of former generations. In both spaces, players compete against and cooperate with players who do not speak Spanish. Knowing a second language becomes a fundamental asset for in-game participation. Even gamers playing on Spanish-based servers have to interact with non-Spanish speakers. This fact gives social value to second language learning in a way that makes this type of identity viable. That is, in low and middle class communities, English use was traditionally seen as a skill with no practical value and at times an external imposition. For many gamers however, it becomes a necessary part of their identity. It defines who they are as gamers, as it is a necessary resource for successful play and a requirement for membership in globalized gaming communities.

It is important to note here that identity is understood in the context of affinity groups and it is defined as a set of common practices that grant recognition of a person as a member of a social group (Gee, 2000-2001). Under this definition, identity needs to be distinguished from identity status as defined by Erikson (1968), who considers identity to be an inner construct that goes through several stages during personal development and status to be a position within a social hierarchy. In this chapter, identity is primarily constituted by the practices of social relevance that gamers share and subsequently to their developed communities, experiences and status relationships they establish and sustain through these practices.

To illustrate, consider the following excerpts from the category bilingual interaction, where it is possible to see the importance of the themes of status, prestige and personal identity. In the first excerpt, a 20 year old male (M, 20) asserts that English use is a foundational feature of MMORPG gaming and it is an indicator of the complexity, broadness and depth of gaming knowledge. In the second excerpt, in the same line, a different participant explains the evolution of MMORPG gaming, stating that at the beginning of the game's development missions were not translated to Spanish, making English communication necessary. Comments from the researcher appear within brackets [].

> "The game started with that language [referring to English] … people believe that the more you know rare things, ummm, the more you know about the game, and the longer you have been playing for" (M, 20).

> "At the beginning the missions were only in English; they were not translated, therefore one… ummm… and if you had some knowledge, you understood more or less the sentence and you could go through. That was core" (M, 21).

In a similar fashion, in the following excerpt, a young man reflects on the social value of English use within the gaming communities by stating that English competence gives "prestige," and works as a signal of deeper knowledge and experience. This

assertion means that English value comes not from its external worth within the social hierarchy but from its communicative power and its correlation with other game skills. Being able of communicate in English signals a broader set of skills like being able to play more advanced missions, discover bugs in games, or communicate with server employees. It is important to note here that words presented in **bold font** were originally uttered in English, even though interviews were conducted in Spanish.

> "yes, of course, it gives you prestige because the more you know about the game, the more known you become, and [people think that] if you have more experience, you should be stronger. Then, if you start talking about, I don´t know, about more difficult missions, if you discover the **bug** in the game and you report it to the **game master,** they will say, that **man** speaks with **the game masters,** he is one of the heavy ones. Yes, yes, the language is important" (20, M).

These interviews suggest that English social value is seen as a function of its practical implications – a function of its meaning within the game as well as its relationship to the set of social practices that surround the game. For this reason, even after the advent of Spanish-based servers, English continued serving a valued and necessary function within the MMORPG gaming community.

Global Communities' Effects on Bilingualism

Second language use is important because communications and interactions around the game are not restricted to Spanish speakers, as evidenced by the relatively high frequency with which interviewees mentioned bilingual interaction in global communities. That is, MMORPG gaming broadens the social experience of players, putting them in contact with friends and contacts that do not speak Spanish. Because of this experience, English acquires significant social value by enabling players to foster and cultivate personal relationships. These relationships, in turn, help to tie English language use more strongly to players' personal and social identities. Belonging to the globalized gaming communities requires being bilingual as explained in the two following excerpts.

> "But, after you make some friends and contacts, you have to start speaking English; it is important that you be able to make people understand you; because the game gains complexity, if you're interested and a given contact is useful, you definitely have to speak English" (M, 21).

> "I talk a lot with a Greek, and with a Turkish, and with an Australian. Those are the three internationals I talk to the most" (23, F).

Another reason why English has maintained its connotation as a status marker is because some supporting materials (e.g., online forums) are not available in Spanish. Many MMORPG gamers perceive English as a practical resource with clear

applications to the process of improving their game play. Additionally, many game-related elements (e.g., powers and skills) are named in English. Translating them is perceived as expensive in cognitive and social terms, and useless in the sense that it does not increase the communicative efficiency of interactions between Spanish and non-Spanish speaking players. Translating a word to Spanish does not make it easier to comprehend; it does, however make it more difficult to communicate. In interviews, gamers explained that they often go back and forth between English and Spanish in the game as well as in their discussions about the game. See for example, the following two excerpts.

> "English is the universal language [within the game]. One always asks a question in English, when you approach a character in the game. The game is a world. So people are always wandering around or starting a mission. So, in that situation, you see someone, and you speak in English because it is the universal language. There is not another language that all people understand" (23, M).

> "my opinion is that the **slang** of the Internet becomes one. That is, each culture has its normal things for everyday life, but there is a particular slang for the Internet and that is the one that is used" (22, F).

Mestizo Literacies in Videogames

Bilingual participation was also evident in the use of words in both languages, as well as in hybrid versions of linguistic expressions. For example, in the first fragment of the quote that follows, the participant uses the English word "whisper" while answering the interview in Spanish. Both the transcript in Spanish and the transcript in English are presented for the sake of clarity. Additionally, it is important to point out that Spanish is phonetically transparent and the h has a mute sound. So, it is not possible to say from the audio if the participant will write "whispear" or "wispear" in an actual chat conversation.

> "Even though the game is in Spanish, the powers are in English… one asks and they answer in English. So, in the game one can **chat** ["chatear" in Spanish]
>
> and one can **whisper** to another character that is close. Then when people ask you to whisper, they tell you **"whisper"** ["wispear" in Spanish]" (20, M)**.**

> "Así el juego este en español, los poderes son en inglés... uno pregunta y le responden en inglés. Entonces en el juego, un puede **chatear** y uno puede **whispear** [whisper in English] a un personaje que está cerca. Entonces cuando le piden a uno que susurre, le dicen **whispear**" (20, H).

Overall, this section has shown that both the evolution of gaming communities and the resulting social practices seem to favor the use of English as a communication tool. The use of English in gaming communities fundamentally modifies the

way bilingualism is conceived by young people today in Latin America. Second Language Learning is not seen as an inapplicable activity with no social value. Being bilingual means being a better player, and more importantly, a better member of the gaming community (whose limits extend beyond local communities to reach global networks). English use has a role both in participation and identity. In the next section, we will explore how this new social configuration produces emergent bilingual practices within gaming communities.

BILINGUALISM IN GAMING COMMUNITIES

When asked, participants in this study revealed an ongoing transformation in the communication practices occurring in online environments. At the micro-level, this transformation entails the surge of new hybrid forms of online chat. In particular, gamers use code switching in forms that are very similar to those conducted by people immersed in bilingual environments. In a similar fashion, they use abbreviated expressions that refer to English sentences, in a combination of both online writing practices and bilingual practices. At a more macro-level, language learning by MMORPG gamers evidences a transition from bilingual literacy conceived as an activity separated from social practice, to an activity grounded in the goals of the game and the community of gamers.

Code Switching, Hybrid and Abbreviated Language

Living in bilingual and multicultural environments shapes the experience and behavior of children and teenagers, influencing language and literacy. Code switching has been described as a natural part of bilingualism (Goldstein & Kohnert, 2005). Many bilingual speakers switch between languages in contexts where it is socially allowed, while at the same time separating languages when in monolingual contexts (Grosjean & Soares, 1986). The strategic choice to code switch in some contexts but not others indicates that code switching is not a symptom of linguistic deficit, but rather the result of a complex negotiation of social meanings with both functional and identity implications (Han Chung, 2006; Reyes, 2004). In particular, research points out that by using or not using code switching, speakers fulfill different discourse purposes and respond to social and pragmatic constraints (Myers-Scotton, 1995; Tay, 1989).

Similar writing practices have been described both in online and physical environments for adolescents who have been highly exposed to two languages. It has been reported that young people who are exposed to bilingual influences engage frequently in hybrid forms of writing involving both English and local languages, as well as in abbreviated writing forms such as those used in other chat channels (Tan & Richardson, 2006). This type of hybrid language happens in groups of adolescents that are exposed to different languages at home and at school (e.g., children of immigrant families) as well as in groups of adolescents that live in societies in

which they have a high exposure to English through digital media (e.g., Malaysia, Singapore), even though the societies as a whole are relatively monolingual (Tan & Richardson, 2006; Tay, 1989).

MMORPG gamers behave somewhat like bilingual teenagers, despite living in predominantly monolingual environments. The exposure they have to a second language through gaming puts them in a position similar to adolescents in bilingual communities (like immigrant's children) or in highly technologized societies (e.g, Singapore). During the interviews, a recurring topic was code switching. Gamers introduced English words and abbreviated expressions (e.g., LOL) in online chats, forums and other discussion spaces. They also produced special types of code switching in which they combined English words with Spanish grammar, or they used English-based abbreviated expressions in conversations.

Code switching. The following examples, which were categorized by researchers as code switching and bilingualism, illustrate these forms of linguistic production and their role in the communities of gamers. Code switching is a natural communicative act within the gaming communities. In the following excerpt, an MMORPG gamer expresses an opinion in a forum in the context of a debate regarding how to deal with inexperienced players in the game. He is generally arguing that new players should be helped, but that there should be a hard leash on free riders. In the same sentence, he uses an English word ("noobs" for newbies), a game-specific term ("azeroth"), and an Internet expression ("ke" for "que" ("that")) that is applicable only to the Spanish phonetics. This hybrid use of language indicates a blurring frontier between languages and contexts of use in gaming communities.

"support the few **noobs** that ["ke"] run through azeroth, no the free riders".

A similar type of hybrid use is seen in a special type of code switching in which gamers use English words and Spanish Grammar in forums and chat. In the following excerpt a participant in a Spanish-based forum is trying to get people to form a guild. The participant uses the verb "whisper" in English, within a message written in Spanish. Interestingly, he or she uses the incorrect English spelling, by omitting the "h" in the writing of the verb, as can be seen in the Spanish excerpt below. He also make a Spanish spelling mistake by using a "c" in the word "interece" when the correct spelling includes an "s" instead.

"anyone interested please **wisp** me (alias) or to (alias2), and we´ll be guild"

"al que le interece que nos **wispee** a mi (alias) o a (alias), y somos horda"

Participants reported that this type of code switching is a standard practice in gaming communities. Other examples of English words with Spanish adaptations used in conversations are the use of Spanish verb forms at the end of English verbs. For instance, gamers will sometimes use the verb **level**-ear (literally translated "to level") for leveling and lag-ueando for lagging. Several points need to be stressed here. First, many of these words do not exist in Spanish given the recent origin of

the phenomena (e.g., lag). In some cases, the direct translation of a word expresses a very different meaning than the original word used by the gaming community. For example, the direct translation of leveling is "nivelar", but "nivelar" means making equal, not advancing in levels (like it does in the MMORPG World of Warcraft when referring to rapid leveling). What this implies is that gamers are aware of use in context, not just of literal translations. This fact implies that gamers are developing the basis for understanding English at a pragmatic level, which is an elementary and necessary step in the advanced comprehension of a second language (Garcia, 2004; Xu, Case & Wang, 2008). Similarly, when gamers create hybrid forms, they do so in a way that implies a more advanced understanding of the nuances of English. In Spanish the only way to present a verb in its infinitive form is by writing the verb without any conjugation. In English, you can use, in certain occasions, the gerund of the verb to produce the same effect (e.g., exchanging "to represent" and "our representing" in the sentence "We were told that *to represent* the defendant would be political suicide"). Naïve learners of English that do not understand this use will translate a verb in gerund in English (leveling) as verbs in gerund in Spanish (nivelando) but never as verbs in infinitive (nivelar). When we review the verb form used in many hybrid verbs, we found that gamers use the advanced translation. That is, they translate a verb in gerund as a verb in infinitive (leveling to level-ear, instead to leveleando). Hybrid forms were also found in nouns. For example, noobs-adas in which the word noob (newbie) is combined with a Spanish termination indicating an object that has a characteristic of a group. "Noobsada" cannot be translated directly but means an object or action that has the characteristic property of a noob.

Abbreviated language. Hybridity in language also produces bilingual abbreviated language. The use of abbreviated language is a characteristic of contemporary digital environments. Research has documented that teenagers engaged in digital conversations go through the creative process of language development by for example, building abbreviations for long sentences or single letter representations of phonetic approximations of actual sentences (Merchant, 2001). These processes of appropriation give new meaning to technological tools and modify the definition of literacy. As we found in this study, many gamers use acronyms (abbreviated expressions) that come from English. For example, gamers used GM for Grand Master; WTS or WTB for want to sell or buy; and BRB for be right back. An interesting phenomenon is the use of acronyms that depend on English phonetics. For example, "Y" for "Why" and "U2" for "you too". What this implies is that, at a basic level, gamers understand that English and Spanish phonetics are different. While this idea seems obvious to advanced English learners, it is a subtle and important point for most second language learners (Saito, 2007). In this sense, gaming creates a window not only to English written comprehension, but also to the understanding of certain concepts that may prepare gamers for learning phonetics in the future. When explaining the use of abbreviated expressions, gamers explained that using them creates an advantage for gaming (e.g., it´s quicker) and can help them to belong to

the community of gamers. They also referred to a collaborative learning mechanism to explain how they learn them, as showed in the following excerpt.

> "I think that it is because everything has to be written in the chat…Instead of writing the complete word, you search for ice crown citadel, then, so if it is not too long, you put ICC. Well, the first time I had to ask too: what was the meaning of ICC?" (18, M).

This type of behavior is not restricted to forums. During interviews, gamers described similar tendencies within in-game chat, pointing out that even though speaking Spanish is the norm in many environments, the adoption of English words is a necessary part of gaming. Their responses suggested that the existence of code switching was produced by social and pragmatic goals. That is, they described the existence of key terms that every player needs to know in order to be able to participate in game situations. Without those terms, the player cannot communicate effectively or collaborate in the collective actions of the game.

> "you say, let´s go to an **instance**; let´s make a guild! Yes. All the techniques are in English.., **guild** that means guild, **boss,** that is the boss. Yes? Key terms that everyone, everyone knows" (23, M).

Second Language Learning in Videogames

Code switching is not accidental. The origin of these linguistic forms is related to the emergence of global communities of gamers, not with the learning of isolated words. Participants indicated that they interact with a broad network of peers within the game and that this interaction serves both as a motivation and as a space for second language use. Within their communities, gamers learn new words and use them in contexts linked to their lives and identities. Their second language, English, serves a social purpose and is grounded in activity. It is important to note that gamers learn situated uses of language, not abstract definitions. For example, in the next excerpt a gamer explains the dynamics of second language learning in the context of these communities, referring particularly to the use of the term "farming".

> "those terms [referring to code switching]…
>
> I don't know who make them popular. For real. I think it was people from panama or the Puerto Ricans. So you hear that they say that they were **farming** [in gerund] in that place. Then one ¿What do you mean **farming** [in gerund]? **Farm** comes from farm, and what they are referring with **farming** [in infinitive], for example, is that someone is **farming** minerals, is that he is in the zone looking…looking for minerals and he is exploiting them" (21, M).

Here, the interviewee explains how the term was introduced and how he discovered its meaning. He first heard the term "farmeando" (farming) in the context of an online discussion about where to obtain resources within the game. Given that

"farm" is not a word in Spanish, he had to ask in the context of the same discussion, what the word meant. In doing, he obtained an example-based definition of the word: an explanation of its use. Participants reported that this type of interaction is common within the game's communities and goes beyond game-specific words. In the following excerpt, a participant explains the origin of his own code switching by stating that he chats with "people from other countries" and therefore he has to use "slang", referring to the use of everyday language as opposed to academic or school based-English. He explains that in those interactions he "gets" (meaning "learns") English expressions, including some expressions that are hard to translate (e.g., "full of himself").

> "most of the people I **chat** with are from other countries, with people from here you hang out [meet face to face] Then, a great part of the **slang,** and of the thing you get are in English…For example expressions like: ¡uy that person is **"full of himself**"!... and in Spanish there is no a way to say it "it is full of himself", the literal translation doesn't stick [work]. Some expressions are easier in English than in Spanish" (23, M).

Advanced Uses of English within Gaming Communities

Beyond the particularities of code switching, participants' answers and forum excerpts show that there is an extended use of hybrid bilingual expressions. This use is not an isolated phenomenon. There is a deep transformation underway within second-language learning. First, it is clear that contemporary adolescents interact in the context of global communities that extend beyond physical frontiers. These communities converge around common interests; interests rather than geographical closeness unify the communities (Jenkins, 2006). The context provided by these communities creates a social common ground in which second-language learning happens in a meaningful way, not driven by curricular obligations but by social and identity commitments. Second, for the case of games, these communities interact around the shared goals provided by the game. Players work together to surpass certain challenges, complete tasks, and achieve goals, grounding second language learning and use in activity. Participants reported advanced English use in conversations within and around game situations. They explained that code switching (rather than an initial, formal-education stage of English use) correlates to other bilingual practices within the gaming community. They suggest that gamers read frequently in English, as it is the primary language of communication used to conduct in-game chat and out-of-game email exchanges.

Specifically, conversations about game topics such as coordinating activity, resource management, and other strategic elements, are often conducted in English. These conversations, as described by participants, can be qualified as generative. That is, they do not follow a fixed script and can represent varied configurations of events. In the following excerpt, a participant describes how she uses her English

knowledge to coordinate action with another player who does not know English. Participants reported that this type of exchange was common and particularly important when negotiating in the trade channel.

> Yes of course one learns a lot. Let´s say… once I was in a mission and there was a **man** that only spoke English, then I had to talk to him in English, that is, I had to **whisp** him -that´s another term- **"give me more mana"** (21, F).

Cultural Code Switching

MMORPG gamers also engage in code switching at a different level, a cultural level. That is, they learn different cultural codes via within-game interactions. From those interactions, gamers build intuitive theories of cultural differences. In the case of cultural code switching, the focus is not on language use but on culture-based conventions and on the expectations and interpretations that underlie these differences. Gee's (1990) distinction between discourse with a little d and Discourse with big D is useful for interpreting game-based code switching as a culturally-embedded activity. In the first case, discourse refers to simple linguistic acts that constitute discourse at the micro-level; in the second case, Discourse refers to a broader network of meanings that are embedded in culture(s). Interacting in videogame communities help individuals develop bilingual competency at the level of discourse, but also at the level of Discourse. During interviews, participants demonstrated this (albeit generalized) cultural awareness in different examples.

> "For example once I had to play with an English [British], and he took the time to talk everything complete, calmly; the Americans are everything fast, quick, quick, the way they are: "you´re taking so much time" and so. The French are like… they don't like English and everything is like Ok, Ok, and so" (22, F).

> "the Americans abbreviate everything, they say three words and communicate one idea. The Colombians build more on the idea, the same as the Latinos. But in that construction things get lost" (23, M).

Cultural code switching by MMORPG gamers is similar to other hybrid cultural practices observed in adolescents growing up under several diverse cultural influences. Teenagers exposed to multicultural environments produce hybrid interpretations of texts in which they use both the imaginaries of their original cultures, and the tools coming from the dominant culture to create a literacy where multiple worlds coexist (Medina, 2010). Participants in this study share some of these traits with bilingual adolescents and with multicultural teenagers; they behave like bilingual adolescents because they are in the initial stages of second language learning, and they behave like multicultural teenagers because through gaming they have come in contact with a multicultural array of information sources. Gaming is transforming the way young people get to know the world, access content and interact with others.

SITUATED LEARNING, PEER COLLABORATION AND USE OF ONLINE RESOURCES

From a situated perspective, participating in gaming communities is powerful for language learning because it allows learners to understand the pragmatics of language use in context and the nuances of real life communication. Learning language through participation in an authentic community of practice provides learners with opportunities that are not frequently found in formal ways of teaching. Practices such as those found in online gaming environments better resemble the way that language is learned and experienced naturally, as the gaming environment helps to present language use in authentic rather than primarily didactic contexts. Further, bilingual interaction in online games permits learners to engage in socially meaningful communication and to use multiple languages as they construct hybrid, virtual identities. That is, their language use is situated in the social and pragmatic space around the game and influenced by their current cultural-historic positions.

Participation in online games gives social meaning to action that is tied to the individual's identity, providing longstanding motivation for language learning through continued identity production and through a sense of community belonging, both of which are crucial for learning (Greeno, Collins, & Resnick, 1996). Identity and knowledge do not evolve separately; rather they constantly interact with one another. Learning English means understanding its value in one's life and finding some personal connection with it. Success in teaching English as a second language depends to a large extent on the ability to involve students with the content and use of the language in their social realms (Toohey, 2000). Online games allow learners to draw these connections by themselves. More importantly, participation in virtual environments permits students to have an active role in negotiating the terms of their second language use and the personal meanings that are constructed. Where top-down, curriculum-mandated approaches to teaching English constitute an imposition of will based on social hierarchy and the implicit power of school, participation in gaming communities permits students to decide what aspects of a second language they want to assume.

In terms of transfer, a situated perspective suggests that participation in online gaming communities presents learners with real-life situations and authentic contexts. In this sense, language learned in game spaces may be more likely to transfer to other social contexts, as, unlike formal schooling, these language practices are already connected to socially situated meanings and contexts. Though they did so infrequently, participants also mentioned transfer to formal evaluation and learning contexts. Language practice in videogames was in some cases considered a starting point for formal language learning or as a jump-start resource, providing competitive advantage in learning or evaluation. In the next passage, a participant describes how bilingual practice in games –although in this case referring to card role-playing games- helped him to succeed in a classification exam in his first college year.

> "At the beginning, it helped me a lot. When I played Dungeons and Dragons, at the beginning, there were no books in Spanish, so I just read English books, and that helped me a lot when I presented the fluency exam of level four"(23, M).

Situating activity in a context that an individual finds personally relevant can also help foster collaborative learning and problem solving, the advantages of which are well known (Palincsar & Brown, 1984). Given the affordances of online games, learners frequently exchange information and conduct sequences of questions and answers. This type of interaction creates a configuration in which more experienced users support new users´ activities in order to better integrate them into the community. At the same time, new users can pick and choose the tasks and topics that they find interesting or worth pursuing. As novice players are assisted and empowered with the help of more advanced users, they accomplish more than they could have on their own. In this way, game based structures align strongly with social approaches to learning, especially with regards to the development of language through the personally meaningful social interactions supported in and around game play (Vygotsky, 1978). Peer collaboration is also useful, as it increases just-in-time feedback and allows for the creation of long standing social support networks (e.g., friends). The advantages of having a gradual introduction to any type of activity are highlighted by models of apprenticeship (Lave & Wenger, 1991). These social practices, including peer collaboration and apprenticeship, are characteristics of good learning in general and second language learning specifically within and around online games.

During interviews, participants referred to the existence of communities of learners that conduct practices of collaborative reasoning and reciprocal teaching. Within these communities, they reported the existence of collaborative exchanges based on spontaneous Q&A sequences, during which participants with lower levels of knowledge request help from the community in order to better understand the meaning of words and expressions. These exchanges, as described by participants' interviews, imply a mutual, though tacit agreement, in which participants with lower knowledge feel entitled to ask, and participants with higher knowledge feel responsible for providing learning and guidance to those with lower levels of knowledge. Exchanges like these have been described in different virtual learning settings focused both on games and on formal academic content (Steinkuehler, 2007; Van de Sande & Leinhardt, 2007). According to participants' accounts, bilingual learning in games supports the progression of non-English speaking new-comers to more central community members (who can understand English and are fluent in the bilingual practices of the community). Players initially learned terms from Spanish speakers with more experience in the game, and later were able to participate in interactions with completely monolingual English speakers. The implication of this type of evolution is that participants begin by engaging in explicit questioning about the second language and later learn through direct participation in gaming situations. On a related note, participants reported that they use online resources (e.g., Google

translate, online dictionaries) to support the process of learning. This practice is self-directed and situated. Participants do not play and then learn language. They learn language simultaneously during play, frequently keeping a browser window open to allow for a quick look-up of unknown expressions. This practice in turn stresses once again the situated nature of language learning within the gaming community.

> "well, the ones that initiate me in that were a cousin and a friend of him. Ummm, they talked to me, and I was like "explain me because I don't understand". At the beginning they were explaining me thing by thing, well… they were the ones that explained me all those things…I remember that the first times they told me about some statistics in English" (20, M).

> "Well, they stick to you, stick to you [meaning you can´t get rid of the expressions]. Let´s say, many words stick to me by only seeing them…. You hear, you ask: what is **noob,** what is **LOL.** That **noob** is newbie, who doesn't know anything**. LOL** is the laugh*"* (21, M).

> "Then you have to be seeing the dictionary, checking the Google translator, to see what they are telling you. The game is a website, so you can minimize it, and be connected to the Internet. So, I was playing and looking in the Internet when I did not understand [something]" (18, M).

Teaching and Learning English in the Context of Mestizo Literacies

The results of this study suggest several implications for populations learning English as a second language. These implications are different for situations in which students live in relatively monolingual, non-English speaking societies, compared to situations in which students are immersed in an English-speaking environment. In this section, we will first present the implications that these results have for second language learning both within and outside of English speaking countries with a particular emphasis on populations that have little or no contact with mainstream language speakers.

The first implication has to do with a blurring frontier between monolingual and bilingual communities in the globalized, digital world. This transformation is a natural follow up of hybridity and convergence in other levels of literacy. Hybridity between literacy in the digital and physical worlds and convergence of decentralized communities through Internet have created the conditions for the prominence of mestizo literacies as a dominant form of language use for contemporary youth. Of course, hybrid literacies have existed for a long time in multilingual communities or in zones of the world where geography created strong linguistic cross-paths (Canagarajah, 2007). The advent and widespread adoption of the Internet has, however, made this experience accessible to virtually all young people with Internet access. And though this study highlights the change as it occurs in a videogame context, the implications extend to other media as well, covering multiple channels,

products and interests (e.g, social media, virtual forums, fan fiction, political participation). It seems inevitable to conclude from these data that future experiences of language learning will be different than they were previously, and indeed, that they have already begun to change. Further, it is possible that in time, several dialects will interact in the virtual world around English as a lingua franca. It seems more likely, however, that the changes observed in this study are an example of a broader set of transformations in which processes that were previously exclusive to bilingual communities are now being extended to the experiences of young people in digital environments. Take code switching for example. The changes presented in this text not only represent a window into the way that new language is learned, but also in the way that languages evolve. Loanwords are a byproduct of social contact between languages and represent the stabilization of code switching as a regular social practice. Internet access, as immigration has done previously, might be increasing the rate of transference of words between languages. This change is based on a transformation of the communication media rather than on the geopolitical properties of different demographics. Gamers and their linguistic practices indicate a change in this direction; change that brings with it a transformation not only in language, but also in the configuration of culture.

This new configuration, in turn, modifies the goals of English teaching further emphasizing the way that formal instructional perspectives based on direct instruction are increasingly out of sync with current technological trends. The focus of English learning can be understood as moving from content transmission to participation in communities and identity development. Teaching practices should reflect this change. Gaming and Internet use in general have increased the number of individuals learning English, not as a mandatory subject in school, but as a tool that enables the participation and negotiation of ideas and identities with others. Most importantly, participation in online communities has blurred the distinction between languages in the virtual experience of a large group of middle class students. Nowadays, many middle class students in Latin America conduct virtual activities, switching between Spanish and English and improving the personal significance and social meaning of using a second language. In this context, English teaching has to be connected with those new identities and with the participation in the communities of practice that have led teenagers to engage in bilingual behavior. Teaching grammar rules abstracted from context and compelling use does little to leverage students' interest in learning a second language. Gaming communities are self-driven learning and teaching communities and instructors of English may benefit from attuning their practices to work more synergistically with participation in such contexts.

Another line of debate is whether or not the linguistic behaviors of gamers are complex enough to be considered a sign of bilingual competence. Game community members conduct activities highly valuable in other social contexts, like being able to chat, exchange information, write and read in forums, while at the same time displaying behaviors that are not canonical to English use (e.g., code switching). The issue seems to be where the lower limit of competence should be placed. For the

case of gamers in monolingual countries coming from low and middle class families in which bilingualism is not the norm but the exception, the behaviors displayed by participants are not only sufficient but also surprising. Pushed by their interest to participate in the gaming community, players' English levels easily surpass those displayed by their parents. Even code switching presents for them the opportunity of experiencing hybrid literacies, in a way that is similar to their upper class counterparts. Gaming then, acts as an entrance point for bilingual literacies. At this basic level, gamers build identities that encompass bilingual forms of participation and give them a sense of agency in bilingual environments, particularly at the level of writing. From there, they can take advantage of more complex forms of participation including the development of spoken fluency. English use as performed by gamers is not perfect, but it is a point of contact between convergent cultures and experiences. Asking English language learners for perfect grammar, spelling or pronunciation from the beginning is closing the door on an opportunity. Imposing traditional standards of perfect English fluency to newcomers will strengthen linguistic elitism (Nayar, 1994), more related to class differences and social positioning, than to actual performance and willing participation.

Finally, it is necessary to discuss the political implications of bilingualism. English teaching in Latin American countries has been criticized as a form of cultural imperialism, in which students are indoctrinated in a foreign language and encouraged to forget their traditions and original identity. In this context, language is considered a means for political control. In the case of gaming communities this is not true for several reasons. The first reason is that gamers in this study are not a defined ethnic population with a clearly distinct identity. On the contrary they are contemporary global citizens whose goals do not differ much from other citizens in the western world. Their goals include going to college, traveling abroad and succeeding at professional and academic levels. Different from upper and middle class students in the US, or even in more affluent social spaces in Latin America, those goals are restricted by access and constraints in social and symbolic capital, including the possibility of being bilingual. By creating globalized, bilingual spaces, gaming is opening access doors to opportunity. English is no longer a strong social class marker in Latin America (though French or German still are); it has become a requirement for equality. By creating bilingual communities of practice, gaming is leveling the field, particularly for those who (as the participants in this study) do not belong to privileged groups, and lack access to many learning and interaction spaces for second language learning. In the same sense, providing them with English competency or fluency enables participation in worldwide social movements in what has been called globalization from below (Brecher, Costello, & Smith, 2000).

Second, English language proficiency in the United States can act as a gatekeeper for social mobility in ways similar to Latin America, albeit via different mechanisms. For many students, cognitive and cultural proficiency in English (especially white-academic vernacular) forms the basis of future success in school. Rather than being useless or detached from their lives, students instead face negative consequences

for failing to become English proficient, as they are frequently asked to learn English as a second language while at the same time mastering the academic content appropriate for their grade (which is often presented in English). As the linguistic and cultural capital that these students bring into classrooms is often discounted (Gutierrez & Rogoff, 2003), videogames may assist in making up the so-called deficit imposed by the (often unfair) school structure. Considering the social pressures of peers that can be associated with the classroom, the potential for videogames to provide psychosocial moratoria (Gee, 2003) and anonymous practice spaces may be particularly appealing to students who are privately struggling. Finally, the fact that communities of gamers grow from below creates a different configuration in English learning. Instead of being passive receivers of transmitted information, global communities take and decide, maintaining agency in the process of learning. In this way, instead of receiving an imposed artificial identity, they construct a hybrid one in which they take what they consider to be best for them, adopting values and practices from their own and other cultures.

The new global economy has changed the relations of production and therefore it has altered the very definitions of power and status associated to language. This new configuration has important consequences for citizen on both sides of the English divide. For those in countries whose native language is not English, English competency combined with a global economy has opened new markets and opportunities. They can now participate in, both as consumers and producers, diverse economic sectors from tourism to digital application development; from education to high-end scientific research to artistic production. In extreme cases, English competency might mean the difference between being able to access those opportunities or being condemned to manual labor jobs of old economic configurations. English competency might also mean the power to transcend and transforms those markets through transnational activism in the form of global social movements and advocacy groups, many of which require some level of English-based communication. With all the information available on the Internet through videos, and webpages, such as Youtube and Wikipedia, language learning is a major frontier.

For citizens of English speaking countries, the new global economy creates what can be called the second language imperative. This imperative indicates that economic success cannot be separated from multicultural awareness, including at least some level of second language knowledge. That is, no country can aspire to compete in the new global markets without being able to communicate with the other on their own terms. The question of language becomes then a question of competitive advantage. Even in the so-called first world, citizens who do not speak a second language will be limited to industrial jobs, that are quickly disappearing or being outsourced. Similarly, the new postindustrial economy implies that many people will have to engage in reverse immigration, looking for high paying jobs overseas, probably in high tech or scientific fields. Only those people with some level of second language competency will be able to survive the edge of the storm.

Globalization is eroding economic supremacies and changing markets in a way that makes second language competency a valuable asset. Videogames in this context become an important and powerful educational tool because of their power to create communities that are global and multilingual in nature – characteristics of the economy that young people will inevitably face.

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ZHUO LI, CHU-CHUAN CHIU & MARIA R. COADY

7. THE TRANSFORMATIVE POWER OF GAMING LITERACY

What Can We Learn from Adolescent English Language Learners' Literacy Engagement in World of Warcraft (WoW)?[1]

INTRODUCTION

Few teachers and educators would dispute the daunting challenge they face today to engage students to learn in school. However, what is evident from 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 technology-based activities, especially playing games in a digital world, surfing the Internet, communicating via instant messaging and text, and socializing on social media sites (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 technologies are faced with the dilemma between out-of-school multiliteracies featured activities and in-school print-based learning. This dilemma may undermine adolescents' ability to become digitally and critically literate and to develop intermedial competence (King & O'Brien, 2002).

In contrast to traditional or "official" literacy activites encountered in school settings, playing videogames, or gaming, is considered an "unofficial" literacy among adolescents (Dyson, 2005). For English language learners (ELLs), who are challenged to acquire high degrees of English rapidly but who are "not faring well in U.S. schools" (August, 2006, p. xiii), gaming may be a thorny issue, because it begets parents' and teachers' concerns about time spent playing rather than learning. Although researchers (e.g., Gee, 2003; Selfe, Mareck, & Gardiner, 2007) have called attention to the use of videogames to foster literacy development, little empirical research has examined adolescents' literacy activities in gaming, and even less is known about ELLs' views of the gaming experience. To address this gap, we 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*).

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 129–152.

FRAMEWORK

Multiliteracies

In this study we conceptualize literacy from a sociocultural perspective and view it as effective participation in a social practice by using language across multiple modes (writing vs. image) and media (print vs. screen). In contrast to a more traditional concept of literacy, in which reading and writing skills are central, literacy as social practice (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, literacy practices (or literacies, in the plural) can take on varied forms and are situated in specific social and cultural contexts (Barton, Hamilton, & Ivanič, 2000).

Technological advancements have brought significant changes in communication and social practices, which have had a profound impact on what it means for one to be literate. To read and write, print remains essential, but today this is far from sufficient. Nearly two decades ago, the New London Group (1996) proposed the concept of "multiliteracies," which went beyond the traditional reading and writing activities in "page-bound, official, standard forms of the national language" (p 2). Their expanded concept of literacy, brought about by technological innovations, has been illuminated by adolescents and young children in out-of-school activities (Jenkins, 2006). Cope and Kalantzis (2009) point out that "new literacies" have emerged as a result of increasing multimodaility due to burgeoning digital technologies. In fact, Dodge et al. (2008) have noted that today's adolescents are "the most media literate of any generation" (p. 226).

Referring to videogaming as a new literacy, Gee (2007) defines literacy as "any technology that allows people to 'decode' meanings and produce meanings by using symbols" (p. 135). Drawing upon Gee's definition, we consider "literacy" to mean effective functioning in situated social practices through meaning-making across various modalities (text, images, symbols, numerals, sound, movement, and so forth) in a multimodal environment.

Literacy Engagement

The concept of "literacy engagement" advocated by Guthrie (2004) plays a prominent role in shaping research on literacy education. Guthrie notes the universal observation that high engagement is associated with high achievement, and, conversely, low engagement with low achievement. According to Guthrie, there are four dimensions of engagement: first, time on task suggests "paying attention to text, concentrating on meaning, and sustaining cognitive effort" (p. 3); second is affect, which implies enthusiasm, liking, and enjoyment; third is cognitive qualities of the reader signifies conceptual learning during reading or building new understandings based on existing knowledge (Guthrie & Anderson, 1999); and fourth is activity-based, which indicates the quantity and diversity of students' reading in and out-of-school. Taken together, engaged literacy is a cognitive, motivational, and social-

interactive behavior. Using strategies like questioning and comprehending, an engaged reader, for example, is capable of participating in social interactions such as discussing his or her reading experiences with friends. Guthrie's literacy engagement framework provides a second, useful lens through which students' engagement in gaming literacy can be understood.

Second Language (L2) Acquisition Theory and Gaming

Given the large and growing number of students who do not speak English as their first language (L1), as well as those students with low levels of literacy (August, 2006), literacy development for English learners has increasingly drawn educators' attention. The National Literacy Panel on Language-Minority Children and Youth point to the dearth of research dealing with English learners' out-of-school-literacy experiences, particularly their literacy practices as influenced by technological innovations (August & Shanahan, 2006).

Videogames provide ELLs with a highly contextualized environment in which they can interact with animated agents and receive positive reinforcement in an engaging way. To elaborate on how videogames can be used to facilite second language (L2) literacy development, it is necessary to revisit second language acquisition (SLA) theories to examine how videogames address ELLs' linguistic needs from a theoretical base. First is the notion of "comprehensible input" (Krashen & Terrell, 1983). Students acquire a second language when the language they are learning is made understandable or "comprehensible" to them. Comprehensible input hypothesis (Krashen & Terrell, 1983) can be applied to gaming environments, which optimize language learning opportunities (García-Carbonell, Rising, Montero, & Watts, 2001). Videogames offer players extensive contextualization of language input, including graphics and visuals, pictures, symbols that represent players' goals and strategies (e.g., a treasure chest), and the ability to look up language alongside actual play, such as on the Internet.

The second theory related to L2 acquisition and gaming is the notion of affective filter (Krashen & Terrell, 1983). Affect refers to feelings and emotions; affect directly relates to the comfort of a L2 learner who is in the process of acquiring a new language. Lowering the "affective filter" for language learners is a key element of the L2 acquisition process. Videogames provide a less stressful and more enjoyable environment, which has a positive effect on language learning outcomes (García -Carbonnell et al., 2001).

Finally, scholars long have differentiated distinct types of language in education: academic and conversational language (Cummins, 1986; Schleppegrell, 2004). Academic language refers to the type of language used in educational contexts, including discipline-specific language and literacy uses (Fang & Schleppegrell, 2008). In contrast, conversational language is used in everyday conversations and may be included in educational settings but is not characterized by discipline-specific language. The language of gaming is context-specific but tends to incorporate conversational language use, particularly in the chat features of the game. Knowing

the pragmatic uses of language is a necessary L2 skill, and gaming allows players the chance to engage in context-embedded (Cummins, 1986; 2001) language uses in an enjoyable environment.

Weighed against the abundance of studies conducted on videogames in education as a whole (Garris, Ahlers, & Driskell, 2002; Margolis, Nussbaum, Rodriguez, & Rosas, 2006; Millians, 1999; Rosas et al., 2002; Shaffer, Squire, Halverson, & Gee, 2004; Squire, 2006), a paucity of published work has been dedicated to gaming in L2 acquisition. Most studies on this topic analyze the features of videogames, which may be applied to language learning in general. Several studies investigated game design tools and principles related to language acquisition (Morton & Jack, 2005; Pasero & Sabatier, 1998; Johnson, Vihjalmsson, & Marsella, 2005); few studies focused on the language learner's use of videogames (deHaan, 2005; Herselman &Technikon, 2000; Yip & Kwan, 2006), particularly with reference to its classroom application. In prior studies on language development through videogames, some positive results have been found in certain linguistic domains such as speaking (Morton & Jack, 2005), vocabulary learning (Miller & Hegelheimer, 2006; Rankin, Gold, & Gooch, 2006; Yip & Kwan, 2006), listening and character recognition (deHaan, 2005), and computer-mediated communication (Thorne & Black, 2007; Shin, 2006). What remains unexamined is the landscape of L2 literacy practices in gaming and an in-depth investigation of how L2 learners are engaged in various literacy practices while gaming.

World of Warcraft (WoW) in Education

In light of the popularity among adolescents and the embedded literacy opportunities, we chose *WoW* as the game through which we studied L2 literacy practices. *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 8 million monthly subscribers (Kain, 2013). *WoW* is set in a fictional 3-D world, where players design and control avatars to explore locations, defeat creatures, and complete quests in order to obtain rewards and improve their equipment for more difficult quests.

WoW has sparked researchers' interest in exploring its educational value. Nardi and Harris (2006) discovered that social activities in *WoW* through collaborative play provides rich learning opportunities. In addition, *WoW* is a chatful environment in which peers voluntarily teach others in conversations, approaching what Vygotsky (1978) has deemed a "zone of proximal development" (ZPD) through peer-to-peer collaborations (p. 86) (Nardi, Ly, & Harris, 2007). In a study of adolescent boys engaged in after-school play of *WoW*, Steinkuehler and King (2009) found that those students, 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.

In recent years, *WoW* has also received research attention in the field of L2 teaching and learning. For instance, Bryant (2006) concludes that *WoW* can provide an

engaging language immersion environment. Thorne (2008) found that multilingual transcultural communicative activities occur in *WoW*. Using *WOW* as a tool for supporting eight ELLs' language learning in a Thai university, Kongmee, Strachan, Montgomery, & Pickard (2011) reported that *WoW* offered a safe virtual space for ELLs to communicate with other players across the globe so that their confidence in using English was boosted through gaming. Futhermore, the students became more active in using English while they were reading, writing, acquiring vocabulary, and practicing public speaking and conversational skills in *WoW* play (Kongmee et al., 2011). Sarsar (2008) investigated ELLs' gaming experience, especially their *WoW* play, outside of school in the United Arab Emirates and argued that scholars and educators should inquire about how best videogames can help students learn academic content. Hence, it is increasingly important to understand how students are engaged in gaming and how that facilitates literacy development.

EXPLORING ELLS' *WOW* EXPERIENCE

The main question of this study was "what second language (L2) literacy practices are adolescent male ELLs engaged in with *WoW*?" Two interrelated secondary questions were investigated: What L2 literacy practices are adolescent male ELLs engaged in within *WoW*? and what L2 literacy practices are adolescent male ELLs engaged in around *WoW*?

By "literacy practices *within* games," we mean literacy practices that are indigenous to the game playing process. In contrast, "literacy practices *around* game" are literacy practices that are not embedded in game playing *per se* but are 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).

A qualitative research design was used to understand "meaning in context" (Merriam, 1998, p. 1). With a focus on "the meaning-making activity of the individual mind" (Crotty, 2004, p. 58), a multiple case study approach was used. We followed a constructivist theoretical perspective to present "rich, 'thick' description" (Merriam, 1998, p. 29) of what L2 literacy practices occurred when adolescent ELLs played *WoW* and what those L2 literacy practices meant to them.

Identifying and Recruiting English Learner-Players of WoW

Since two researchers of the study were members of the local Chinese community, we went to the local Chinese church in a southeastern college town to distribute flyers and solicit participants from within the Chinese-speaking community. For the sake of "purposeful sampling" (Creswell, 2007, p.75; Merriam, 1998, p. 61), we conducted an oral survey to recruit participants. The selection criteria required the participants: 1) be identified as ELLs in grades 8-12 (approximately aged 13-18), including those who were currently receiving English as a second language (ESL)

services as well as those who were exited from ESL services; 2) speak Chinese as a first language; 3) play online computer games and spend about two or more hours playing games per day; 4) have been or be willing to play *WoW* in the English language. Both novices and experts of playing *WoW* were invited to participate in this study. Though we intended to identify participants who were currently receiving ESL services, none could be found in the sampling population. Ultimately, four male adolescents who were native Chinese speakers and L2 learners of English participated in this study.

Fei[2], Jim, and Mark were born in Mainland China, and Kyle was born in Taiwan. All of the particpants had immigrated to and been in the United States between four to nine years at the time of the study. Mark, Fei, and Kyle were identified, received, and were exited from ESL services in public schools, indicating that they had attained a level of English language proficiency that allowed them to participate fully in mainstream classes. Except for Kyle, who was a recent high school graduate, the other three participants were still in high school at the time of the study. Though Kyle had just completed 12th grade, he still had two credits remaining in order to obtain his high school diploma. Mark was an experienced *WoW* player and had reached a level 80, the maximum level in *WoW*. The other three participants were new to *WoW* but had been playing videogames for between four and ten years. Table 1 below provides an overview of the participants' backgrounds.

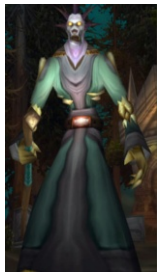
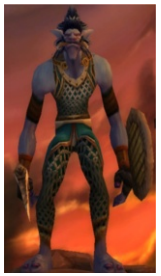
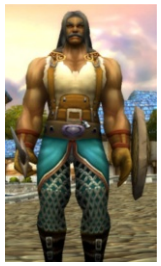
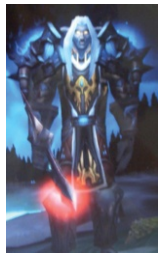
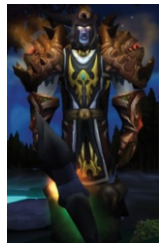
Table 1. Four participants' background information

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 needed to earn two credits to receive his high school diploma.

In *WoW*, all the participants designed and controlled their avatars (or characters) to complete quests given by non-player characters (NPCs) and interact with other players through text or voice chat in synchronous time. In creating an avatar, the participants needed to choose to be members of Alliance or Horde, two warring factions. Characters from the same faction could group and interact. Also, a player had to select the character's race and class. There were 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) during

Table 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							

this study period. Each race had unique racial traits and certain class selections. Table 2 shows the participants' avatars (in pseudonyms) in *WoW*.

Incorporating Data from Multiple Sources

In the analysis of the data, we triangulated multiple data sources, including interviews, observations, and archival data sources.

Interviews. There were two formal one-hour individual interviews with each participant. At the beginning of the study, a one-hour interview was conducted with an emphasis on the participants' prior videogaming experience. The first interview provided a global view of each participant's "life history" in terms of videogames. At the end of the study, a second, one-hour interview was conducted to ask the participants to reflect on their *WoW* experiences throughout the study period.

Observations. We observed each participant playing *WoW* once each week, with each observation lasting between 60 and 90 minutes. A screen capture program, *Camtasia*, was used to record the game playing process on the screen. After each observation, the recording of the game process was used in a stimulated recall procedure to cue each participant's memory in describing his experience (Gass & Mackey, 2000) while playing the game.

Archival Data. 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.

Seeking Emerging Issues

Two stages of data analyses, within-case analysis and cross-case analysis, were conducted. In order to yield substantial "comparisons" in data analysis, the constant comparative method developed by Glaser and Strauss (1967) was used throughout the data analysis process.

As Figure 1 demonstrates, three sets of data derived from each case, namely, individual interviews, observation field notes and reflections, and archives. In within-case analysis, we analyzed data by case or participant, such that each case consisted of interview, field notes, and archival data. In cross-case analysis, we looked across all four participants' interviews, observation data, and archives. In this way, comparisons were constantly made within and between levels of conceptualization (Merriam, 1998).

LITERACY EVENTS IN *WOW*

The findings from this study demonstrate a hierarchical arrangement of literacy events. Findings differentiate among "gaming activities," which are the activities directly observed in the participants' game play process; "literacy activities,"

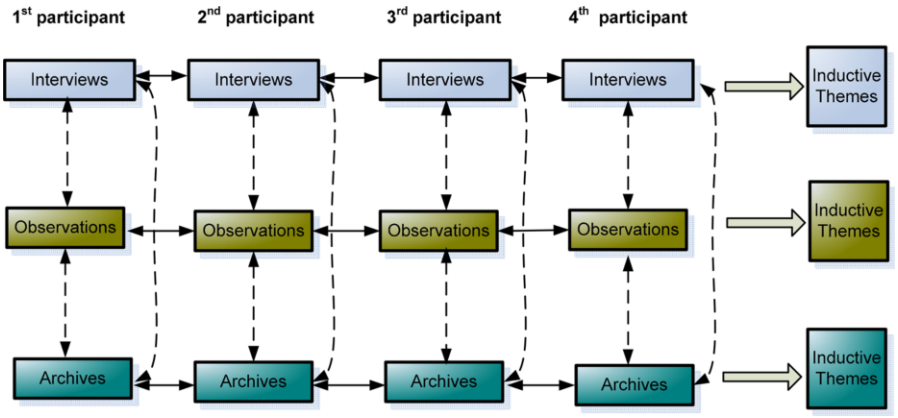


Figure 1. Flow of data analysis.

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 vs. 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.

which suggest "observable units of behavior" (Barton & Hamilton, 2000, p. 7) and where literacy plays a role; and "literacy practices," which refers to an abstract way of "utilising literacy" (Barton & Hamilton, 2000, p. 8). Differentiating gaming activities from literacy activities and from literacy practices provided a bottom-up lens through which "literacy" in gaming could be specified, contextualized, and conceptualized. Literacy practices were dependent on literacy activities, which were based on specific gaming activities. The relationship among these three events is depicted below in Figure 2.

Gaming Activities and Literacy Activities within and Around WoW

There were 51 gaming activities identified within *WoW* play but only four gaming activities around *WoW*. Gaming activities within-*WoW* and around-*WoW* gaming were categorized as shown in Tables 3 and 4. The participants' within-*WoW* gaming activities far outnumbered around-*WoW* gaming activities. In contrast with various within-*WoW* gaming activities, around-*WoW* gaming activities were rare and only found in two (Mark and Kyle) of the four players' gaming process. In essence, around-*WoW* gaming activities tended to be more optional in the game play, rather than necessary.

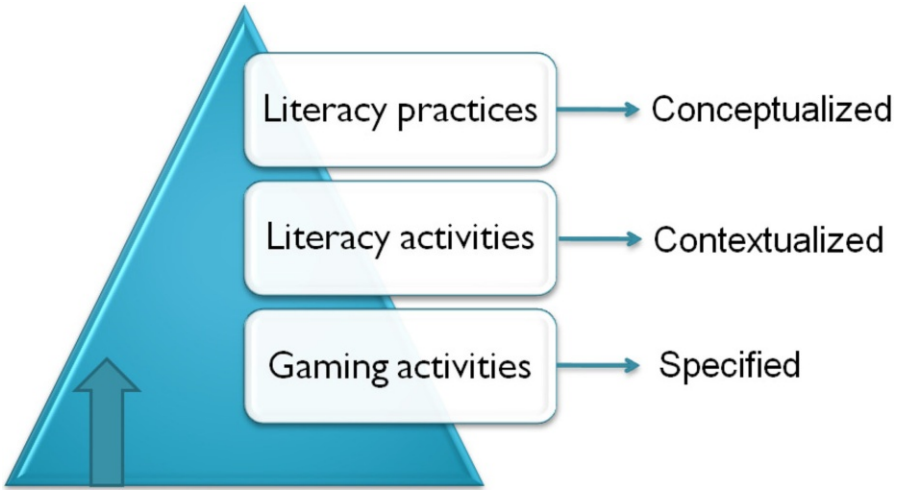


Figure 2. Gaming activities, literacy activities, and literacy practices.

Tables 3 and 4, below, also demonstrate the complexity and plurality of literacy activities in the participants' *WoW* experience. Eighteen and three literacy activities were found within *WoW* and around *WoW*, respectively. Of all the literacy activities both within and around *WoW*, reading, a process of decoding texts, symbols, and numerals, was an activity that occurred in most of the gaming activities. Decision-making was the literacy activity whose occurrence was second to reading. The participants made decisions when they were faced with more than one option. For instance, players decided whether to accept or reject a quest after reading about it. The third observed literacy activity was discovering, which included discovering problems as well as resources. The fourth literacy activity was comparing, which occurred when the participants had two or more objects in the game and needed to consider whether they were similar or different.

Literacy Practices within and Around WoW

We identified four principal literacy practices, including information seeking, strategizing, problem solving, and socializing in the participants' *WoW* play. All of the around-*WoW* literacy activities such as searching, reading, and watching video were related to seeking information. In other words, information seeking was the only literacy practice that occurred both within and around *WoW*. Table 5 provides an overview of all of the literacy practices within and around *WoW*. It further illustrates the literacy activities in which participants' literacy practices were grounded.

Figure 3 provides a visual display of the frequency of each literacy practice both within and around *WoW*. Each literacy practice is briefly explained below.

Table 3. Gaming activities and literacy activities within WoW play

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 (through 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 (chatting: 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

(Continued)

Table 3. continued

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 & bidding)
Exploring & Checking	Time, map, calendar, NPCs, character info, spellbook, icons, etc.	reading (text, numerals, symbols)
	Travelling using Hearthstone	reading (text, symbols) locating
Others	Finding a home	reading (text)
	Resurrecting(choosing to be healed by a spirit healer or retrieving corpse)	decision making reading (text, symbols) locating resurrecting

Note: The literacy activities and literacy practices in shaded areas were those found in all four participants' game play.

Information seeking. Information seeking was the main, observable literacy practice in which participants were engaged. Information seeking is a broad concept, 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 or did

Table 4. Gaming activities and literacy activities aroud WoW play

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. 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)
Writing Interacting Advertising Recruiting Negotiating	Socializing (8)

use to solve the problems. The participants read texts, symbols, and/or numerals when involved in all the gaming activities: questing, chatting, managing characters, managing economy, randomly exploring, and checking. Around *WoW,* Kyle used Google to search a NPC's information.

Strategizing. Planning, comparing, and decision-making are components of strategizing. On the macro level, strategizing determined how the participants'

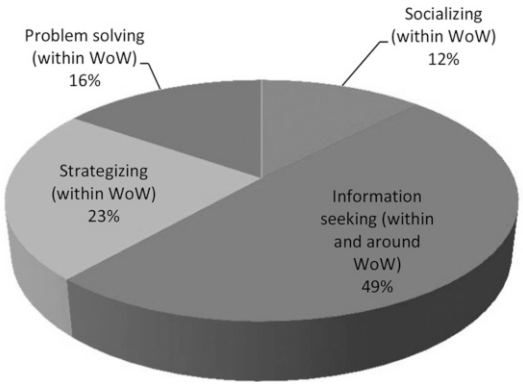


Figure 3. Literacy practices within and around WoW.

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. The participants used four specific strategies. First, exploring was a strategy and an individual learning process the participants often used when they had difficulties locating a certain place. Second, searching for useful information online was used frequently and appeared to be an effective way to strategize. Third, reading with purpose saved participants' time while they were engaged in a quest. Participants noted that this was an effective way to save time. Fourth, collaborative play with other players was a strategy in which all the participants were engaged.

Problem solving. Problem solving was a literacy practice in which the participants utilized information and resources in order to accomplish some game-specific tasks. These tasks included questing, competing, repairing armor, recovering health, buying, selling, auctioning, and locating. Problem solving in this study occurred as a final step in a larger problem solving process. For example, doing quests, which was a larger problem (or event), included acquiring, accepting/rejecting, processing, completing, and tracking quests.

Socializing. In gaming, socializing occurred when the participants interacted with or intended to interact with other players through text chat or voice chat, which were commonly characterized by situated language use. Without exception, each participant expressed a positive view of the significance of social interaction in the game process.

For instance, Jim, who benefited from playing with another player, said talking to a more experienced player 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.

To Mark, socializing did not occur as a separate, unique event; rather, socializing occurred while he was competing, comparing the roles in raiding, and searching patch information online.

MULTIMODAL LEARNING ENVIRONMENT IN *WOW*

Guthrie's (2001) framework of literacy engagement underscores the instructional and social contexts that foster reading development. In this study, the participants' literacy practices are embedded in the context of gaming, and that further includes social interaction among players. To differentiate the literacy engagement in classroom reading (Guthrie's framework) from literacy engagement in gaming (the context of this study), we use the terms reading literacy engagement (RLE) and gaming literacy engagement (GLE), respectively.

Multimodal Environment

Reading literacy engagemen mainly includes 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 content knowledge. Given that texts, symbols, and numerals are pervasive in *WoW,* the player is immersed in a multimodal environment.

Beavis (2002b) describes several central elements entailed in reading and playing games, including "segmented screens, talk, color, dimensionality and sound" (p. 6). All five of these elements were noted across the four participants' gaming experiences in several ways. First, the animated action of the game occupied the center of the screen. Second, there was a multitude of supplementary information that was supplied in the form of icons in different sections of the screen (non-center). The players moved between these different layers of frames to locate the information needed in the game process. For example, they opened spellbooks to check spells. The game log updated the players on what was happening in the game world. Third, colors played an important role to deliver information to gamers. For example, the players could easily identify the value of loots with different colors so that they could decide which items were worth keeping. Fourth, dimensionality indicated the layout of the game. In *WoW*, the players used the map on the top right corner in the game to change their location. Finally, the main use of sound in this game was to create realism and intensify "the immersive feeling of the game" (Beavis, 2002b, p. 7). Though Mark was the only participant who used audio communication with other players online, 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).

WoW presented a world of both visual and audio effects. Each participant interacted in multimodal fashion, including text, symbols, numerals, and sound. In contrast to Guthrie's (2001) emphasis on the use of interesting and engaging text, in *WoW* this was replaced by the multimodal nature of the game.

Scaffolded Learning Environment for Second Language Learners

The *WoW* setting itself was arguably a scaffolded learning environment. A scaffolded learning environment consists of two parts. First, the student/player actually needs scaffolding, or access to information (curriculum in school) that is made understandable or comprehensible to them. Second, the student/player has access to scaffolding, essential someone or something that makes information understandable. Generally, scaffolding is most effective in learning when the information, curriculum or second language is just above the ability level of the player/ learner (Krashen & Terrell, 1983). In the case of gaming, 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 and based on school requirements. Though there were no teachers or external requirements in *WoW*, learning occurred via the game design and was part of the player's expectation.

WoW presented a learner-centered environment. The participants had access to several in-game tutorials, which acted as a 'more knowledgeable peer' when the player required additional information (Nardi, Ly, & Harris, 2007). First, new tutorials were set in the exclamation marks, and players could access those at their convenience. Second, some of the information was integrated in the chat log. Whenever a player logged in, a piece of information about updated patches, add-on issues and forums on the Website appeared. Third, each quest in *WoW* was set in a narrative format and functioned as tutorials to scaffold the learning process. All of the in-game tutorials designed in the game provided explicit instructions and allowed novice players to learn by doing rather than by reading a manual.

Interactive Learning Environment

WoW offered a high degree of interactivity among individual players. Prior research on adolescents' videogaming experience found that social interactions about the game existed out of games (Raney, Smith, & Baker, 2006). This study found that participants' learning was demonstrated through interactions with other players in the game and by interacting with the game itself.

Playing was the best way to demonstrate the participants' understanding of the game. The social interactions enhanced their motivation to play. The interactions among players provided rich learning opportunities; the interaction between the participants and the game itself was constantly ongoing. The participants received immediate feedback in their game process. When they were too far from the target, they could see the red alert or hear the warning if the volume was kept on. The chat log functioned as a device that also provided constant feedback. Players also received rewarding confirmations if they successfully accepted and completed quests.

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 traditional classroom instruction is likewise apparent in *WoW*. Vygotsky's (1978) notion of ZPD demonstrates how collaboration occurred in *WoW*. According to Vygotsky, 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. Nardi, Ly, and Harris (2007) found that player-produced conversations in *WoW* fostered ZPD supplied by more experienced peers. In line with their findings, Mark confirmed that he and his friend, Ananivana, helped each other from the very beginning of the game. Their shared experience, peer-collaboration, not only kept them engaged in the game but also boosted their learning.

SECOND LANGUAGE (L2) LITERACY ENGAGEMENT MODEL IN *WOW*

Below we provide a visual representation (see Figure 4) 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 were embedded in literacy activities, which were derived from gaming activities. In other words, gaming activities as the most observable activities in gaming provided opportunities for literacy. The circle on the right demonstrates the four literacy practices identified in this study, which included socializing, information seeking, strategizing, and problem solving. "Sense of engagement," which we use to pinpoint how the participants felt about their gaming experience, occupies a central location with the four literacy practices around it. Hence, the four literacy practices that occurred concomitantly fostered the participants' sense of "enthusiasm, liking and enjoyment" (Guthrie, 2004), which involved reward, immersion, and immediacy. Three of the four literacy practices, that is, socializing, strategizing, and problem solving, occurred within *WoW*. Only information seeking occurred occasionally around Kyle's and Mark's game play. Thus, it is clear to see that engaged literacy through gaming has the potential to transcend the immediate environment and support additional literacy activities.

While playing *WoW*, English as a L2 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, and those occurred in English. Furthermore, reading in the game was not confined to reading words. Reading was multimodal, and it included words, symbols, images, numbers, colors, and occasionally sounds, all of which shaped the context for the participants. Though writing was not as indispensable as reading in *WoW* play, informal writing (e.g.text chat) did occur in all the participants' game play process, though the frequency varied. Mark was most active in using informal and specialized game

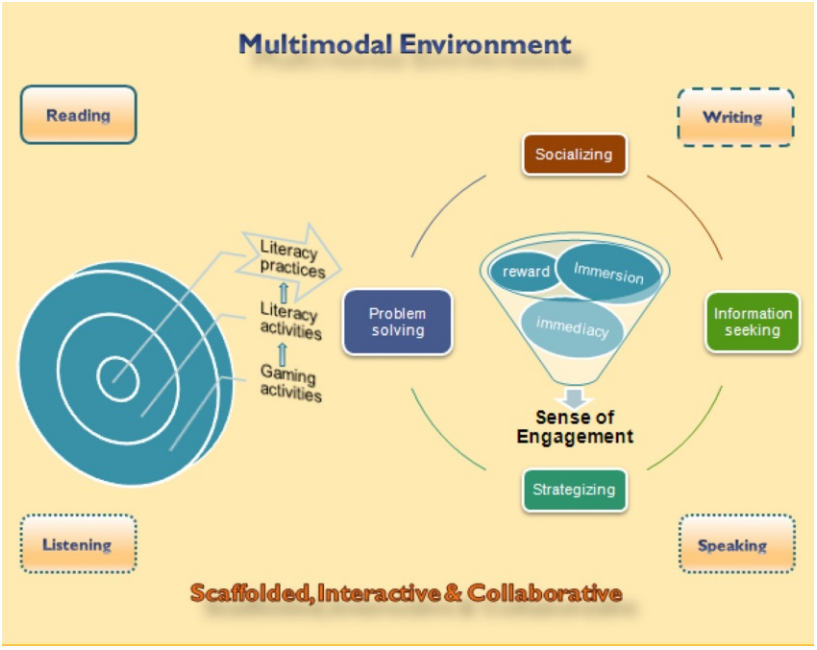


Figure 4. L2 Literacy engagement in WoW.

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.

language to chat with other friends. Listening and speaking were optional literacy practices, which occurred less frequently. The multimodal environment in *WoW* offered the participants a variety of literacy options that they could choose from, in order to effectively function in the game world.

In summary, examining the literacy practices that the participants were engaged in reveals the nature of the literacy engagement in gaming. A bottom-up perspective on gaming activities, literacy activities, and literacy practices provided the lens through which the nature of the literacy engagement was viewed in a dynamic way. In *WoW*, literacy engagement occurred when a player's 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. Players were 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 learned English as their second language,

the exposure to the English language was increased, due to the fact that reading and writing were incorporated into the gaming process while listening and speaking tended to be optional, but engaging, practices.

CONCLUSIONS AND IMPLICATIONS

This study contributes to the field of literacy development in that it demonstrates the types of literacies that non-native English speakers (prior English language learners) were engaged in out-of-school settings. Findings show that the four participants were highly engaged in multiple and simultaneous literacy events across four modalities of language – listening and speaking (when audio was utilized in *WoW*), reading, and writing. They engaged in multimodal forms of literacy (reading and writing print in English, symbols, numerals, colors) to obtain information. As Beavis (2002a) asserts, the information in the game world is presented "in a variety of modes – verbal, visual and symbolic" (p. 53). This type of context-embedded (Cummins, 1986; 2001) language use facilitates learning English for L2 learners because the additional information in tutorials and visual aids help students to make sense of new information very quickly.

In addition to the multimodal nature of reading, findings from this study showed that adolescent ELLs' L2 literacy engagement was scaffolded, interactive, and cooperative in the game. For second language learners, scaffolding facilitates the development of the second language when the language input is made comprehensible. In the context of learing a second language and building new vocabulary in English, scaffolding through the use of visual and audio aids, as occurred in with *WoW*, is cruicial (Krashen & Terrell, 1983).

In addition, players' individual learning styles and learning needs were met continuously while gaming. For example, for a student whose learning style is visual, the multimodal nature of information can enable the student to view images and symbols and click on them. Clicking allowed the participants to obtain additional information when they needed it, or when it was most necessary. This provided an immediate and authentic input for players. For others whose learning style is language-based, printed text in English accompanies visuals and images, also providing immediate and authentic language input. Finally, for students who prefer audio instructions, those are likewise available within *WoW*. The multimodal learning environment, which responded to individual participants learning preferences, bolstered their motivatation to participate and desire to succeed and gain power.

Given the changing nature of literacies in the 21st century, as foresighted by the New London Group (1996) nearly two decades ago, it is important for educators of ELLs and mainstream students to begin to see the relationship between motivation, literacy engagement, and multimodal learning environments. Schools across the US are already responding to the uses and benefits of multimodal learning and technologies available, even if that response has been sluggish. For example, teachers can now create "courses" within online social media sites such as Edmodo and use

specialized Apps (applications) to provide additional opportunities for literacy and reading. And for teachers of English language learners, the use of online audio and video to build content knowledge, background, and show real images of items and events, is a revolutionary opportunity for teachers to respond to the unique needs of ELLs. Used in a classroom setting, we believe that these can drive language learning in two ways: (1) engaging students through the use of multiple modalities and semiotic systems where individual learning needs can be met; and (2) demonstrating the immediate, communicative nature of English in written and oral forms and for authentic purposes. Because English is one of the most dominant languages in the gaming world, videogames such as *WoW* provide ELLs with a highly interactive, stress free, and multimodal learning platform on which to "try out" English language for communicative and literacy development purpose in a low risk environment (Krashen & Terrell, 1983). Feedback was embedded in the activities, as immediate and authentic communication. Hence, participants enjoyed the low-stress language environment.

As teachers of English language learners adapt their content and mateirals to meet the language learning needs of students in their classrooms, teachers can tie language objectives to multiple modes of language input and student output (Herrera & Murray, 2005). For example, teachers can "build background" and key vocabulary by utilizing streamed videos for students. Multimodal learning via online media is a genre within itself. As the United States moves to a common, national curriculum in the 21st century and Common Core State Standards respond to the increasing pressure for students to develop high degrees of academic language (CCSSI, 2013; Cummins, 1986, 2001; Schleppegrell, 2004), language associating online and multiple literacies needs to be included as a genre and knowledge base in its own right. Hence, incorporating technologies and gaming opportunities with extension language and literacy activities for second language development into school time and school curricula may become an increasingly necessary component for teachers of English learners.

In the context of gaming, Gee (2007) suggests that student learning can occur using games. In this case, teachers can build background information required to assist game play, assist in designing avatars, and frontload key vocabulary for ELLs. The gaming environment has immediate application for second language use, and teachers can have students reflect on their experience orally or in writing using feedback features.

For future research, we offer several suggestions based on our work with gaming and English language learners. First, research involving players at varied gaming levels will enrich our views on literacy opportunities that may vary for different level game players. Second, it is important to explore the gender role in adolescents' literacy involvement embedded in gaming in any future research. Third, investigating *WoW* and gaming with newly arrived ELLs, i.e., at various English language proficiency levels, will allow for additional insight into their linguistic and cultural experiences in a language-enriched gaming environment. Fourth, studies that look across diverse

groups of learners, from various first language backgrounds, would shed further light on role of gaming and its implications for literacy development in and outside of school. Finally, this study provides the first step to understand how adolescent ELLs are engaged in L2 literacy practices in gaming outside of the classroom. We anticipate that future studies will explore the ways that videogames could be applied to school teaching and learning to lessen the "new digital divide" (Buckingham, 2007) between students' in-school literacy and out-of-school literacy. [6,248]

NOTES

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[2] All names of participants are pseudonyms.

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SECTION THREE

VIDEOGAMES AND CLASSROOM LEARNING

MARY RICE

8. REVIEWING THE CONTENT OF VIDEOGAME LESSON PLANS AVAILABLE TO TEACHERS

Teachers are far more likely to use resources that they have immediate and easy access to (Grossman & Thompson, 2008). It is with that understanding that I approached the issue of locating and analyzing the content of lesson plans available to teachers on the subject of videogames. There were two research questions in this study. (1) Are lesson plans for teaching videogames on the Internet accessible to teachers and (2) what is the nature of any plans that exist?

This chapter overviews the online lesson plans accessible to teachers who might be interested in using videogames in their curriculum to build literacy skills. This study has implications for advocates of videogame use in classrooms as well as for scholars with research the use of videogames in instructional contexts.

REVIEW OF LITERATURE

Several bodies of research inform this review. The first body reviews the theoretical foundation for the use of videogames in educational contexts. The second body reviews the practical work on videogames in classrooms. The third body describes lesson plans with particular attention to the common ways that teachers are taught to make them. The last part of this review ties together the bodies of research into a theoretical frame built around the concept of Technology and Pedagogical Content Knowledge (TPACK) (Mishra & Koehler, 2006). Each of these bodies informs this study by laying out how videogames ought to be used in classrooms, the current state of how they are used, and what teachers recognize as support for improved, increased, or enhanced educational uses.

Theoretical Foundations of Videogames in Education

Videogames have been a topic of interest for researchers for quite some time, but they have been especially popular in the wake of research coming from places like the New London Group (1996). This consortium outlined new skills that would be necessary for learning in the 21st Century. In particular, this group acknowledged the work of Kalantzis (1995) who suggested that workers in a new economy ought to be well rounded, rather than specialists. The notion of well roundedness underscores a need for a focus on multiple literacies, rather than the traditional one-dimensional

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 155–168.

view of literacy that dominated the past. The group leaned heavily on work by scholars such as Cope and Kalantzis (1999) who argued that multiculturalism, technology, and economic opportunity were bound to merge in ways that would require a more sophisticated view of literacy and learning.

Lave and Wenger (1991) called groups of people that share interests and have social investment in one another *Communities of Practice* (CoP). The New London Group published their ideas as a manifesto, challenging literacy educators to think in terms of *lifeworlds* or community spaces where life and meaning making could coexist. In order to attend to this notion of lifeworlds in practice, the New London Group pointed to the new multimedia and hypermedia channels and really, any technology where subcultures have the opportunity to find and use their own voices. The major argument of adherents is that technology should be used to connect people and give them outlets for collective knowledge(s) and identities.

The New Literacies movement has paid particular interest to the notion of discourse communities as they relate to CoP. A CoP is the group itself. The way to join the group is to participate in their shared practices, many of which are discursive. When a CoP has a particular discourse, they are also a discourse community. The notion of discourse community comes from the work of Nystrand (1982) and was elaborated on by Swales (1990). Communication in a discourse community follows rules about what can be said and how can be said. Taking up these discourses is requisite for joining a CoP. Research on videogames and education or learning has been unclear about how it intends for teachers to move about in the CoPs. There is also little consensus about terminology and lack of holistic thinking about the contexts, purposes, and aims of game usage in many studies (de Freitas, 2005).

Previous theoretical work about videogames and learning has focused on the advantages of the technology. A particularly noteworthy example is Squire's (2003, 2006, 2011) work propounding videogames as a tool for learning, practicing, and living in multiliterate worlds. In looking at the clarion call for solutions to a national concern for more effective ways to help young people become successful readers, possessive Squire's has tried to outline practical ways in which the digital age could be leveraged. In particular, he argued that games were an experiential, interactive medium with a community of social practice participating in designed experiences. Whereas de Freitas (2006) wrote about the theoretical underpinnings of teaching with videogames with an emphasis on how and why they should be used, Annetta (2008) described how teachers were using videogames as an alternative to manipulatives in an attempt to accelerate learning in school contexts. Such research suggests that teachers are great efforts to engage with videogames as part of their practice.

In a CoP, people learn through practice and participation. However, Lave and Wenger also assert that there is such a thing as legitimate peripheral participation in a CoP. In terms of videogames in education, teachers are expected to join the CoP that has been built on the scholarly inquiry into literacies and interactive technologies without the advantage of having opportunities for legitimate peripheral participation. Instead, a dichotomy has presented itself as teachers who are either in the CoP or

out. Further, it is teachers' job to work to get into the CoP by attending intensive trainings, participating in research, buying products, signing up for online accounts, and doing intense study while searching for ways to infiltrate the videogames and learning community even in cases when they were never part of the videogame community in the first place. Even more problematic is the fact that teachers are expected to take up New Literacies and aspects of progressive education at a time when political rhetoric emphasizes "basic skills" and "standardization" (Ravitch, 2013). Apprenticing teachers into New Literacies practices, of which videogames are part, is a tall order for a profession already subject to multiple, often conflicting demands.

Practical Uses of Videogames in Classrooms

Tondeur, van Braak, Sang, Voogt, Fisser, & Ottenbreit-Leftwich (2011) established that pre-service teachers are rarely able to implement technological tools in their classrooms, and one of the major reasons was a lack of access to resources. Another was a lack of staff development and general support. These researchers maintained that helping teachers to take up technology of any kind would require time and resources that brought together theory and practice to produce ideal learning environments for students. These findings are particularly relevant to videogames because so many teachers do not have experience with them as casual players and are not necessarily experts on the functions of their hardware.

In one review of videogames in education, Egenfeldt-Nelson (2006) identified five key tensions in the 300 research articles that he examined. These were learning versus playing, freedom versus control, drill-and-practice games versus micro-worlds, transmission versus construction, and teacher intervention versus no teacher intervention. While his specific review was about the use of videogames in education, his focus was on research studies and giving new direction to the field of research. Among his concerns about wider use and more rigorous studies were the practical problems of using videogames more widely in educational contexts, specifically "short lessons, physical space, variations in game competence among students, installation, costs, and teacher preparation time" (p. 188).

Another review that is more recent was conducted by Young, Slota, Cutter, Jalette, Mullin, Lai, & Yukhymenko (2012). These researchers reviewed 300 articles about videogames in education, but they were particularly interested in how videogames were being used in various disciplines to promote learning. They found that physical education classes that included *Exergames* contained the most authentic uses that resulted in the greatest learning for students. By contrast, videogames used in math and science classes were marginal in their ability to help students learn. These are dismaying findings for advocates of videogame use for learning—that for the subjects in which students often struggle the most, and in which much opportunity is tied—there are few viable uses of games at present, which will produce learning outcomes. These findings are also likely to frighten teachers in certain disciplines

that are already under increasing pressure to produce proof of learning to collect their salaries and maintain their employment from movements like value-added measurement (McCafferty, Lockwood, Koretz & Hamilton, 2003). It would be a tremendous risk for a teacher in a widely tested content area to embark on videogames as an instructional tool when there is a lack of empirical support that such efforts will result in the kind of learning upon which teachers are judged. The dialectic between providing authentic contexts that expand participation in lifeworlds *and* produce measureable and observable learning in students has to be achieved in the game design community in order for teachers to be truly safe in taking up gaming in instruction. These findings underscore the idea that teachers who want to use games to teach subject matter need support in order to do so.

In summary, research on videogames in education has spanned several decades and has a heavy advocacy piece to it—researchers who study videogames want to persuade teachers to use them in their curriculum. What has not been considered is the extent to which teachers who are not in research studies lack connections to learning companies or online gaming sources, but who might consider using videogames in their teaching, are able to access planning materials to help them get started.

Lesson Planning Methods for Teachers

Since the purpose of this chapter is to provide an overview of lesson plans available to teachers, it is necessary to comment about what the education field has to say about the components of a lesson plan. Although lesson plans that teachers use tend to vary by subject, length of teaching experience, and other factors, there are several theories of lesson plan design with which teachers are familiar (Clark & Dunn, 1991). These modes of planning represent discursive knowledge (Nystrand, 1982) of teachers about how to foment and implement instruction.

Madeline Hunter's (1984) Essential Elements of Instruction. Hunter's three-page lesson plan form included the following elements: (a) anticipatory set, (b) objective and purpose, (c) input, (d) modeling, (e) check for understanding, (f) guided practice, (g) independent practice, and (h) closure. This format is often the first format that teacher candidates are taught to use (Johnson, 2000). The problems with this lesson plan format include the assumption that every lesson is a discrete piece of learning. When teachers are trying to use multiple literacies to engage students in on-going projects that may even be highly self-directed, this format may not be applicable in its entirety. However the notion that there needs to be some objective or purpose in the plan and that there needs to be a dialogical relationship between teachers and students where products are developed that meet the goals and show demonstration of learning are applicable to the development of New Literacies.

Sheltered Instruction Observation Protocol (SIOP). This method was developed as a tool for principals to use to evaluate teacher performance, but eventually evolved into a planning tool in and of itself (Echevarria, Vogt, & Short,

2012). The parts of SIOP are lesson planning (which includes setting a language and a content goal), building background knowledge, grouping, practice/application, assessment, and reflection. These pieces are not supposed to be linear like Hunter's (1984) model, but there is some sense that student background knowledge should be activated and that some kind of activity should occur where students can operate on a concept and they are assessed according to how well they have mastered a skill.

Universal Design for Learning. Some scholars interested in online learning research identified characteristics of an online environment that would make it theoretically conducive to learning for students with disabilities. This line of research resulted in the Universal Design for Learning (UDL). The UDL claims to embrace a model of clear objectives for learning based on neuroscientific findings (National Center on Universal Design for Learning, 2013). This model emphasizes that lessons should have (1) multiple means of representation, (2) multiple means of action and expression, and (3) multiple means of engagement. Each of these three pieces is broken down further into sub categories with examples and links to online resources. This model emphasizes a multiplicity of learning activities that could result in a multiplicity of learning outcomes, but it has 32 checkpoints for lesson planning that fit under the three major categories, making it a bit unwieldy. While it may not be practical for a plan to attend to all 32 elements, the tenets of multiple means of representation, action, expression, and engagement should be highly relevant to multimedia learning opportunities, such as those that involve high engagement activities like videogames.

Summarizing the Critical Lesson Plan Elements

What the three major lesson planning frameworks all have in common are a sense of aim, goal, purpose, mission, or objective, an expectation that students will interact with materials, with each other, and with the teacher, and finally, that those interactions if planned and executed properly will result in connections that go from previous knowledge or understanding to new learning. It was with these understandings that I approached this project where I looked at lesson plans. At minimum, a plan that a teacher can adapt and use should describe and provide materials for those three elements.

Some scholars have argued that teaching with technology should be framed around technology, pedagogy, and content knowledge. This is known as the TPACK (Koehler & Mishra, 2006) framework. TPACK includes not just the lesson planning strategies that appear earlier in this review of literature (EEI, SIOP, UDL) but also the social and contextual factors of technological implementation and use in the classroom. This framework is a series of overlapping types of knowledge (content knowledge + pedagogical knowledge = pedagogical content knowledge; content knowledge + technology knowledge = technology content knowledge; pedagogical knowledge + technology knowledge = pedagogical technology knowledge). Together these forms yield technology and pedagogical content knowledge. Mishra and Koehler

argue that this framework, based on Shulman's (1986) work, is necessary because emerging technologies do not have fixed uses like older technologies do. A pencil, for example, is regarded to have far fewer uses than a computer in a classroom (Brand, 1997). The TPACK framework suggests strongly that lesson plans for teachers should address learning in the traditional sense, but it should also help teachers tap in to the multiple uses of videogames as instructional technology and multiple ways to access videogames through various technological methods. TPACK also suggests that just using the games as a way to build schema or referencing them here and there is also insufficient. Instead, gaming technology should be integrated into a complex teaching and learning system that is carefully planned and seamless. If academic advocates of gaming technologies know this, then plans for teachers that suggest such integration should be widely available to teachers. TPACK experts and gaming collaborators should have been able to leverage what they know about technology and the time they have to play with it, to make it easier for teachers to use and use well without having to sign up for being a research subject or spend countless hours and their own dollars trying to join the videogame discourse community.

ANALYTIC APPROACH

The work of Mitgutsch (2010) argues for the use of *playography* as a way to establish connections between the virtual worlds of games and the realities in which we live. The purpose of my sharing these fragments of my particular playography is to establish that I am not a heavy gamer, but I understand their importance and support their use and I also understand that students like videogames and their playographies would be even more extensive than mine.

I am a former junior high school teacher with 10 years of experience in secondary classrooms. In my home, there is an Xbox, a PlayStation3, a Wii, a (PlayStation Portable) PSP , a Sega Game Gear, and I am the personal owner of a DSi. I own three games for the *DSi—Tetris, Wheel of Fortune*, and *Brain Academy*. I have bowled, boxed, and cow raced, and played Cooking Mama with a colleague on the Wii. I have never played a single game alone or with another player on the Xbox or PS3. In terms of computer games, I have played PC versions of Minesweeper and Minesweeper; Commodore 64 versions of *Frogger, Donkey Kong, PacMan* as well as *Mike Tyson Boxing* in an Atari format. The only online game I have ever played on Facebook is Happy Aquarium. I kept feeding my fish and cleaning my tank for months, only to have my fish die when I went to Europe and had to go without Internet access for two weeks. I told a friend I was unable to give her a ride home because I was trying to get home to save those fish. My students have used graphic novels based on videogames like *Halo* in class. I have also used games such as *Happy Aquarium*, *Cooking Mama*, and even simpler games like *Minesweeper* as cognitive examples and metaphors for describing processes of reading and writing. Although I have never given instruction in how to create a game, several of my students have generated videogames as class projects, captured images or graphic sequences from videogames for class film projects, and

brought their games and used them for class presentations. My junior high students, in fact, have proven themselves very adept at linking videogames to classical literature and movies, such as *Beowulf*, and Dante's *Inferno*. I have also set up simulations where students have to help characters uncover boons and make decisions that lead to various outcomes. These simulations have not been technologically supported, but the principles of objectives and agency are lifted from my understandings about how videogames operate as text.

As readers can surmise from reading my gaming autobiography, I am potentially one spot above a novice. I am not an expert at games or how they work. I would not consider myself "in the know" about what games are popular and I do not spend very much of my leisure time playing videogames. My interest in them for educational purposes is grounded in my previous work in the developing literate identities of adolescent boys (Rice, 2011a), literacy curriculum (Rice, 2012; Rice, 2011b) and the identities of teachers as they take up teaching (Rice, 2010; Rice & Coulter, 2012). As I read about curriculum and research on literacies in the classroom, I found ample support that videogames were a viable curricular option. What I wanted to know was whether a teacher like me who wanted to start integrating videogames into the curriculum would be able to find online lesson plans to help me see how to do that. The particular methods that I used were selected and executed with a non-gaming expert but amenable teacher in mind.

LOCATING LESSON PLANS

This study used an open definition of literacy as multiliteracies necessary for negotiating a variety of disciplines (Cope & Kalantzis, 1999). This definition was in keeping with the definitions from the New London Group (1996) and other influential definitions in the field of videogame research. I was also operating off the notion that teachers wanted to try new instructional tools, especially with technology, but they also wanted tools that were ready-made and easy to access (Ruthven, 2013). Indeed, teacher beliefs about technology rarely align with their actions (Ertmer, et. al. 2012). Just because teachers think they should avail themselves of technology does not mean that they do. Instead, teachers focus on barriers such as financial and administrative support, infrastructure, and so forth.

According to Gerber and Price (2013), teachers consider time the most important barrier to implementing technology. Teachers lack opportunities to sit down and think about how to get access to the technology, how to plan instruction around the technology, how to work out the kinks to make the instruction more optimal, and how to plan for the potential negative reactions of peers and parents who do not perceive technology, particularly videogames as being sufficiently robust to bring about positive learning outcomes. That said, teachers who are interested in potentially using videogames in their instruction do not immediately go out and join Nings (online platforms for professional to create customized social networks), discussion boards, or sign up for other types of accounts that would give them access to more planning support.

The next issue that arose in designing this study was how I was going to determine what easy *access* was. My requirement that the lesson plans appear on the Internet made sense because teachers readily use materials online and have access to equipment for downloading and printing materials. For the purposes of this research, accessibility was defined as (1) appearance in the first three pages hits on either google.com or yahoo.com (2) completely free of charge (3) available for use without having to start an online account, sign in, or order equipment or books. It was assumed that eventually materials might have to be accessed online or purchased from somewhere else, but the plan needed to be immediately available. These plans, of course, needed to be available for download during the window in which data were being collected. Finally, in keeping with Ruthven's (2013) terminology, I decided ready-made meant (4) some description of the lesson would be necessary, but in general I used an open definition of the term *plan*.

I went through three rounds of searching for plans. These searches occurred in October 2012, March 2013 and January 2014. I restricted the number of results pages that I looked at to three because of an iProspect (2006) study that indicated that 90 percent of search engine users stop looking after three pages. I also restricted my engines to Google and Yahoo because Google powers almost 68 percent of all searches and Yahoo is powered by Bing, which is owned by Microsoft—the other major sponsor of search engines (SEO, 2013). Indeed, when I entered my search terms into Bing.com, I got the same results as when I used Yahoo. The same iProspect study indicated that users do not switch search engines when they do not get enough results, but instead alter their keywords. The keywords I used initially were "videogame lesson plans," but I also tried "free videogame lesson plans," and "lesson plans for teaching with videogames." The search engines changed "videogames" to "video games." In addition to lesson plans, the results of searches yielded bloggers advocating the use of videogames in education, advertisements, and websites advocating the use of videogames for education as well as therapy and entertainment. These were not considered as data in the findings.

Using these criteria, a data set of 20 lesson plans was analyzed. The grade level was exclusively middle and high school. In order to analyze these plans, I first created a table where I entered the plan title, details of the plan, the web address of the plan, and then I read over the plans and used thematic coding (Miles & Huberman, 1994) to organize the data. An additional table was made to determine the features of the plans in the data set. This table also contained information about whether the plan had a stated objective, a link to state or Common Core (2013) standards, descriptions of activities, reproducible organizers or texts in any format (printable or online only), and a link to a videogame. Table 1 contains a summary of the plan title, descriptions, features, and sources for the 20 plans.

Table 1. Videogame lesson plan descriptions*

Plan title	Plan elements	Coded Category	Source
Sims	Description	System management	Scholastic.com
Phoenix Wright: Ace Attorney	Description	System management	Scholastic.com
Rune	Description	Elements of narrative	Scholastic.com
Rise of nations	Description	System management	Scholastic.com
Real world lesson: Designing a video game	Objective, questions, video	System management	Teachingchannel.org
Math in video games	Instructions and handout	Critical thinking	Thirteen.org
Video game design lesson plan: You be the judge	Instructions and handout	Critical thinking	Learninggamenetwork.com
Video games	Objective, aims, descriptive text	Critical thinking	About.com/ Lesson library
Video games lesson plans: MMORPGS economics	Teacher narrative an instructional sequence	System management	c.apricio.us/2011/06
Karma tycoon video game	Goals, vocabulary, materials, and instructional sequence	System management	Lessonplanspage.com
Collateral Damage? Researching a connection between video games and violence	Instructional sequence and guiding questions	Social utility of gaming/ critical thinking	NYTimes.com
Go wild with endangered species	Link to game	Critical thinking	www.ymiclassroom.com

Table 1. Continued

Physics take flight	Link to game	System management	www.ymiclassroom.com
How would you change history?	Link to game	Critical thinking	www.ymiclassroom.com
Creating a roadmap: Storyboarding as an element of game design	Description, instructional sequence, reflection questions	Elements of fiction	gamestarmechanic.com
Creating a soundtrack for a video game	Objectives, strategies, and materials	Critical thinking	Soundtree.com
Video-games lesson	Objectives, strategies, and materials	Social utility of videogames	mediasmarts.ca
Video games and social control	Objectives, strategies, and materials	Social utility of videogames/ elements of fiction	futurestate.tv

*The word, *video games*, appears as two words within the chart due to search parameters used to locate lesson plans.

FINDINGS FROM THE REVIEW

Most of the plans come from the same sites. Indeed, Scholastic.com provided four of the 20 plans. Another four plans were provided by Powerupthegame.com. This means that two sites provided 40 percent of the plans. The rest of the plans were all from unique sources. Most of the plans are about understanding systems and/or building literacy skills. These skills are not tied to a particular content area. The most well represented content area was social studies for which six plans were located. This is 30 percent of the total number of plans. The second most well represented content area was science, with five plans. Both English/language arts and the industrial arts had four plans. There was only lesson plan accessed that featured math.

The lesson plans did not contain identical elements. Seven of the plans stated a particular learning aim, goal, or objective (35 percent). Five plans articulated specific standards, state, or national, that the plans would meet. During the first search for lesson plans, only a few contained reproducible material or other textual features for use during the lesson. By the last search, 12 of 20 plans contained such materials. Ten of the lesson plans included a link to a videogame. While many plans that included links discussed skills that students might learn from the games, there were not usually instructions to the teachers for guiding the students through the process of how to learn content or skills from using the games. The lessons that did do this came from Powerupthegame.com.

Several of the plans had alignment issues between the objectives, the instructional sequence, and the materials provided. One example of this comes from a resource site for English as a second language. The instructional sequence in this plan asks students to

> Write a description of one of their favorite video games using the vocabulary in the vocabulary tree. Ask students to NOT use the name of the game. Make sure to point out that directions should be given in the imperative voice (i.e., Open the door, go to the chest, get the gold, etc. NOT You must open the door, you must then go to the chest, you must get the gold from the chest, etc.).

However, the text provided to the students as supplemental material was not linked very well to the task at hand. The students were supposed to practice giving directions through the game. The sample that was provided focused more on the features of the game.

> Star Hunters is the game with something for everyone! Designed for multiple platforms including: PlayStation 2, Xbox, GameCube—and even a mobile phone version. This 3-D game puts you in control! A cross between a role-playing, action, educational and fighting game, you'll be wowed by its incredibly addictive nature. This game has got it all, puzzles to solve, tasks to complete and missions to accomplish and all these in various player modes. Just think, if you like to fight, you can fight your way to the top. If you prefer

> quizzes, the wizards have plenty of questions to ask as you learn your way to success. All this with multiple navigation systems: joystick, keyboard and mouse. Get Star Hunters—the fun has just begun!

Lessons like this seem to suggest that videogames are a point of interest for the students and not a subject of study in and of themselves. Many of the plans used videogames as an ancillary topic or a motivational idea without delving fully into using them to teach. In a lesson plan about videogame landscapes, teachers are asked to locate video game magazines and show students how the landscapes in videogames contain surreal elements. Then, the students are supposed to create their own surreal images from their imaginations. This is another instance where videogames are positioned as an interest grabber, but they are not the real focus of the lesson.

Another interesting finding was a dichotomy between teaching *about* videogames and teaching *with* videogames. The lessons *about* videogames included lessons on how to design games, how to debate about the social merits of games, especially violent ones, and description activities where students are led in talking about games. One of these lessons was designed to help students learn how rules in a game affect the potential outcomes. Specifically the students were supposed to learn that a game needs some rules to make it interesting, but too many rules makes the game too difficult and decreases motivation to play. The New York Times website also provided a lesson plan with sources discussing not only research about videogames and violence, but explanations about why it was difficult to study the possible link between the two. Lesson plans like these demonstrate that lessons *about* videogames have the potential to be highly educative.

The lessons plans that facilitated teaching *with* videogames were focused on using problem solving strategies to create a system or to work with a system. Example of this include the *Karma Tycoon* lesson plan where students engage in a simulation where they set up and run non-profit corporations based on problems in their own community. Such activities have merit by bringing aspects of the real world into the virtual world for experimentation. Although the Physicsgamebox.com site does not have especially helpful lesson plans in terms of curriculum development, the games it hosts do illustrate real world physics in virtual circumstances as well.

In general, the plans do not attend to the tenets of TPACK (Mishra & Koehler, 2006). Instead of showing teachers possibilities for what could be done with videogame technology, the plans are rigid and fixed. Many of them appear to teach *about* videogames rather than *with* videogames. For example, several of the plans ask students to argue in favor (or disfavor) of the use of videogames. On closer analysis, however, the plans are not reaching their full potential either. There is no discussion in the discourse communities that would be in favor of or opposed to videogames in educational settings.

Finally, it was striking how, considering these plans were about videogames and purported to be grounded in New Literacies (1996), unimaginative most of the plans were. Many of the descriptions said things like “practice argument skills” or “learn

about social systems" without being explicit about how such skills representing something more sophisticated than something a teacher could do in a well-crafted plan without a videogame. The goal of New Literacies is to help students engage in long-term, on-going problem-based projects where they use technology to access information, evaluate it, and determine ways to respond to the information in an array formats. Students learning in this paradigm should also be using both linguistic and non-linguistic forms.

IMPLICATIONS FOR INCREASING ACCESSIBILITY TO PLANS

Advocates of videogame use in the classroom as well as those who conduct research on videogames and learning may wish to attend to these distinctions when addressing teachers or attending to research questions about using videogames in teaching. This confusion matches what de Freitas (2005) found in her review of research on videogames, namely that there was a lack of distinction in various ways to learn from videogames. Egenfeldt-Nelson (2006) noted in his review that he had concerns about teachers' ability to use videogames in education because of factors like time and expertise. In addition there are concerns about expense. Since teaching with videogames requires that a videogame be purchased or licensed for use, there is always going to be a specific, additional expense to using a lesson plan *with* videogames. In this review of lesson plans, videogames as a motivational topic, learning *about* videogames, and learning *with* videogames emerged as important ways that videogames could be leveraged with varying degrees of success depending on the overall design of the plan, the attention to issues of cost and technological infrastructure, and potentially the knowledge, skills, and dispositions of the teacher who comes to the plan.

Academic advocates of videogames, teachers who might want use videogames in education, and companies that produce educational videogames and lesson plans for these games have different needs and goals. No group is willing to meet the other two on their discursive terms. Teachers want plans that are inexpensive, fast, and easy to use; companies want customers in education to purchase their products; academic advocates want teachers to use their research to help children learn and companies to use their research to aid instructional design. They all exist separately from one another, each with their own ends.

A teacher who wants to try to use videogames to meet standards and build growth promoting learning experiences faces significant barriers in terms of instructional support for doing so. Implications for this research include the need to provide teachers with more readily available high quality plans as part of an ongoing effort to encourage them to use videogames as part of instruction. According to the lesson planning frameworks that are most often used by teachers, a lesson plan needs to have a description of the activity or interaction between students and teachers, but it also needs some kind of learning objective or goal and it needs to describe how

the activity will meet the goal. This type of information is vital to teacher decision making about how to use the curriculum, even if the ideas in the lesson and the premise and design of the game is otherwise sound.

Also, in today's current educational milieu of common standards, it is likely that teachers would benefit from help making explicit connections to the curriculum standards that govern their work as teachers. To that end, modeling is critical for the implementation of new practices (Tondeur, et. al., 2011). A teacher in a building that does not have a colleague to model the proper educative use of videogames in the classroom is unlikely to have access to very many other resources to model unless they can get access to some high quality lesson plans.

Implicit in the general lack of thoroughness of the plans is that teachers have more gaming expertise than they probably really do or that they have the luxury of time to do the leg work to figure out how to use the videogames. Future materials aimed at helping teachers that do not assume they have gaming knowledge, time to do extensive hunting for ideas and materials, and resources to purchase plans and materials for preview are more likely to be used. It may be that there are good quality plans available for registering accounts or for purchase. If this is the case, the makers of these curricula need to find better ways to help the teachers see that putting in this extra effort will be worthwhile. It is likely that teachers are barraged with products to buy in their teacher boxes and spammed with emails soliciting their business, but they control very little funding in a school and their personal earnings do not often afford expensive, long term financial commitments, particularly new teachers, and especially when the teacher is unsure of whether the materials will really be beneficial. In an educational climate where many groups claim to have the answer to help students learn better, instead of asking how teachers are going to get into the discourse community of videogame technology, the technocrats should be asking how they should shape their message to infiltrate the discourse community of teachers. As a part of that consideration, future research might be directed to disentangling the issue of teaching *about* and teaching *with* videogames.

Twenty plans within easy reach of a teacher are simply not enough. Of these 20, most were very different from Squire's (2003, 2006, 2011) call for opportunities to work in experiential life worlds. It is true that playing many types of videogames gives students the chance to use these skills as the games themselves are problem-based and users have to gather information and make decisions. However, those qualities should be coming forward in the materials available to teachers as games are used. Teachers may think that students who like games already play them on their own. It will be difficult to convince educators that they should just allow the children to play, the playing will teach the skills, and then somehow the children will solve the problem of global warming, food production, oil spills, or anything else. It is my firm belief that videogame technology holds great promise for helping to develop these skills. Indeed, Annetta (2008) and others have shown these possibilities to exist, but based on the lesson plans that are readily and easily accessible to teachers, videogames look more like product pitches, carrot and stick bribing systems, and time fillers.

I end this chapter with a challenge for advocates of videogames in educational settings, especially those who conduct research. I challenge them to continue making their message that videogames ought to be more widely used in schools while also finding ways to provide real access to materials that teachers can understand and see how to use in their classrooms (Grossman & Thompson, 2008). These materials should also be for a variety of subject matter and fit into broader notions of curriculum as an integrated whole. If it is genuinely imperative that students have access to lifeworlds (Squire, 2003, 2006, 2011) then it also ought to be imperative that the people who believe in the educational promise of games make greater efforts to get those lifeworlds to students in practical ways. Providing this educational opportunity to students will require further invitation to teachers to participate in the CoP (Lave & Wenger, 1991) so that in their interaction, they can learn how to use a wide array of tools to meet the needs of students. While full participation in a short amount of time might not be possible, setting a goal for legitimate peripheral participation makes sense for helping teachers understand how the lifeworlds are educative in terms that make sense to them.

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LAN NGO, NORA A. PETERMAN & SUSAN GOLDSTEIN

9. COLLABORATIVE VIDEOGAME AND CURRICULUM DESIGN FOR LANGUAGE AND LITERACY LEARNING

INTRODUCTION

The dichotomy between theory/research and practice is often discussed in the field of teacher education. There appears to be a great divide between the formal knowledge of research universities and practical knowledge from the classroom (Cochran-Smith & Lytle, 1999). Our work in digital literacies draws from the tenets of practitioner inquiry, collaboratively generating knowledge in a community of inquiry (Cochran-Smith & Lytle, 1999, 2009). The authors of this chapter, two university researchers—both former secondary school teachers—and a current public high school English as a Second Language (ESL) teacher, blurred the line between theory and practice in collaborating to design a videogame for language and literacy learning. Through this collaboration, we drew from our experiences in teaching and attending teacher education programs as well as other resources reflecting our educational and professional histories.

This chapter describes curriculum design using Gamestar Mechanic (www.gamestarmechanic.com) to create a literacy game on the topic of bullying for an English Language Arts course for English language learners (ELLs) from the perspective of the collaborators. We developed the game based on the learning objectives and content of a semester-long unit on bullying and provided opportunities for the students to identify and practice literacy strategies (making predictions, text connections, and inferences) that may support the students as they interact with texts in English (Gregory & Kuzmich, 2005). The focus of this chapter, as the title suggests, is on the collaboration in this school-university partnership and our approach to designing the videogame. We embed a reflective discussion on the collaboration for videogame design in a particular context in hopes of sharing information on how such a process may be applied in other contexts for language and literacy learning.

CLASSROOM CONTEXT

This project was situated within an ongoing collaborative partnership between the authors, which aimed to generate and deepen a recursive exchange of knowledge regarding the language and literacy practices of adolescent English Language Learners. With the support of Gamestar Mechanic, we created a videogame for 25

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 171–184.

public high school students designated as intermediate level ELLs, as determined by New York State's English language proficiency test. The students were enrolled in two sections of English Language Arts classes. Across these two sections, there was a wide range within the "intermediate" level: according to the teacher's holistic assessment of the students, some of the students were likely be placed in the advanced level in the following academic year, some students could have been considered "high-intermediate" at the time, and some students were identified as having learning disabilities and had Individualized Education Programs (IEPs). The students were 14-21 years old, and while there were a variety of home languages represented in the class, most of the students spoke Spanish. Other languages represented in the two class periods were Georgian, Hebrew, and Korean. Academic English was a central component of the curriculum in this school context. All students must pass a series of standardized exams in order to graduate high school, and ELLs are not exempt from this requirement. For example, if a student arrives in the U.S. at age 19 and matriculates into the high school, the student may experience a relatively great amount of pressure to become proficient in academic English in order to graduate high school before the end of his/her twenty first year, when a person is no longer eligible to be enrolled in the state's public high schools. In response to this situation, the teacher's goal was to develop engaging lessons that fostered academic growth.

A key feature of the instructional practice in this local educational context was content-based ESL, an area particularly emphasized at the secondary level, where ELLs are expected to simultaneously master both the English language and a particular set of subject matter (e.g. Chamot, Dale, O' Malley, & Spanos, 1992; Duff, 2001). As such, the game was embedded in a lesson plan with both content and language objectives specified by the teacher. The content objective related to the topic of bullying, in particular, an anti-bullying campaign led by an adolescent named Katy Butler who was a victim of bullying. The language objectives focused on reading strategies for students to apply while reading an authentic text from Katy. Students also had an opportunity to share their opinions regarding issues relevant to this text.

GAMESTAR MECHANIC

Gamestar Mechanic is a free game design platform that allows students, teachers, and educators to create games using a simple design software online. The unique feature of Gamestar Mechanic is that not all features of the design function are immediately available: burgeoning game designers must engage in an introductory "quest", traversing a series of levels embedded in a larger narrative in order to 'unlock' many hidden design features, such as characters, weapons, and layouts. Designers are not only conscripted into a series of increasingly difficult levels, but also are presented with lessons in game design along the way in order to demonstrate how to best

Lesson Plan

Content objectives:
Students will be able to make inferences, predictions, and connections based on a campaign email about bullying
Assessment: The game and oral discussion

Language objectives
Students will be able to make inferences about information in a campaign email
Assessment: Successful completion of the game
Students will be able to discuss (orally) their predictions and connections related to a campaign email
Assessment: Pair and whole-group discussions

Brief lesson sequence (to be adapted by the teacher):
Elicit prior knowledge and build background on relevant terms and concepts:
activism
petition
campaign
email campaigns
moving ratings
review of reading strategies: making inferences, predictions, and connections
using italics or quotation marks to signify the title of a movie
Show video of Katy
Active/collaborative reading of Katy's email (e.g. buddy reading)
Teacher models the game (including the training game) and the game survey
Students play the game and complete the game survey
Differentiation: The teacher is collaborating on this unit with another ESL teacher in her building that teaches advanced ESL. The teacher's intermediate level students will partner with an advanced level student to form heterogeneous pairs. The two students can decide who will control the keyboard for the first level while the other student provides his/her input as the two proceed in completing the level, which includes responding to reading strategies questions. When level 2 is reached, the other student can control the keyboard. Alternatively, the class can plan to play all the levels of the game twice such that one student controls the keyboard for all the levels and then switch with his/her partner.
Review video questions as a whole group (or in pairs)
Differentiation: Sentence prompts on the board may be optionally used by students. Students also have the option of writing their responses rather than sharing orally with others.
Discuss open-ended questions in pairs and then as whole group
Students complete a self-reflection related to the game and the lesson

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Ideas for Building on This Lesson Plan
Students and the teacher examine and synthesize the game reviews and game surveys. They design (including storyboarding) and implement improvements on the game.
Students further consider Katy's situation and campaign and think about issues of particular interest to them. The students can then design a game or an action plan to raise awareness about these issues. Students who are not designing a game might, for example, following Katy's model, strategize an online campaign.
A lesson plan might involve interview skills and talk around game and lesson design.

Link to the training game: http://gamestarmechanic.com/game/player/782726
Link to the game (three levels): http://gamestarmechanic.com/game/player/782726

Figure 1. Lesson plan incorporating the videogame. This figure illustrates the lesson plan that follows other lessons on bullying and reading strategies, including making inferences, predictions, and connections.

craft levels for a variety of gameplayers. These lessons provide instruction on both technical and aesthetic elements of game design.

One of the researchers, Nora, and colleague Robert, were tasked with creating the handful of levels necessary for the literacy lesson. After consulting with Susan, the classroom teacher, and creating a series of storyboards to map the potential features of our levels, the researchers set out to play their way through the Gamestar Mechanic design lessons (often with great consternation). This initial stage—playing to complete the game and unlock all the design features—took several weeks and revealed a number of previously unknown design elements that caused the researchers to go back and revise to their original plan. Of particular importance in the design process was incorporating English language text into the game so that it authentically complemented and supported gameplay. It was also crucial to design levels that were both entertaining and challenging, but not overly frustrating. After completing the first draft of the levels, the researchers opened the software up to the Gamestar community (all games are available for free play online to anyone) and to their fellow doctoral students for 'beta testing'. After voluminous feedback on the difficulty of the game, Nora and Robert once again modified the game before submitting it to Susan for feedback and eventual implementation in her classroom.

KATY BUTLER <MAIL@CHANGE.ORG>

DEAR _____,

I WAS BULLIED A LOT IN MIDDLE SCHOOL. FIVE YEARS AGO, IT GOT SO BAD THAT FOUR GUYS CAME UP BEHIND ME, CALLED ME AWFUL NAMES AND SLAMMED MY HAND IN MY LOCKER, BREAKING MY FINGER. THE WORST PART IS, I FELT SO TERRIFIED AND ALONE THAT I COULDN'T EVEN TELL MY PARENTS THE TRUTH ABOUT WHAT HAPPENED.

SO WHEN I SAW THE NEW DOCUMENTARY *BULLY*, WHICH WAS PRODUCED TO STOP BULLYING, IT FELT SO GOOD TO KNOW THAT THE FILMMAKERS WERE TELLING THE STORIES OF KIDS LIKE ME. **I THINK THAT EVERY KID SHOULD SEE *BULLY*. THAT'S WHY I WAS SHOCKED TO LEARN THAT IT WAS GIVEN AN "R" RATING BECAUSE SOME OF THE BULLIES IN THE FILM USE BAD WORDS.**

TWO WEEKS AGO, I STARTED A PETITION ON CHANGE.ORG ASKING THE MOTION PICTURE ASSOCIATION OF AMERICA TO CHANGE *BULLY*'S RATING TO PG-13. MORE THAN 300,000 PEOPLE HAVE JOINED ME. CLICK HERE TO SIGN NOW.

THE PAST TWO WEEKS HAVE BEEN INCREDIBLE. I'VE BEEN ON CNN, MSNBC, FOX NEWS, CBS, AND THE ELLEN SHOW. CELEBRITIES LIKE **ELLEN DEGENERES, MERYL STREEP, JOHNNY DEPP, JUSTIN BIEBER, RANDY JACKSON, DEMI LOVATO, AND DREW BREES** -- AS WELL AS **29 MEMBERS OF CONGRESS**, LED BY REP. MIKE HONDA -- HAVE SAID PUBLICLY THAT THEY AGREE WITH MY CAMPAIGN.

BUT EVEN AFTER ALL THAT, THE MPAA HASN'T BUDGED. I GOT TO MEET WITH ONE OF THEIR EXECUTIVES LAST WEEK, AND SHE TOLD ME THAT THEY HAVE TO KEEP THINGS "CONSISTENT." MAYBE SHE THOUGHT THAT I WOULD GIVE UP, OR THAT I'M JUST 17, SO HOW MUCH CAN I REALLY CHANGE ANYWAY? BUT I KNOW THAT IF WE KEEP UP THE PRESSURE, THE MPAA WILL HAVE NO CHOICE BUT TO ADMIT THAT BEING "CONSISTENT" ISN'T AS IMPORTANT AS LETTING KIDS SEE A MOVIE THAT COULD LITERALLY SAVE LIVES.

CLICK HERE TO SIGN MY PETITION TO TELL THE MPAA TO CHANGE *BULLY*'S RATING TO PG-13.

THANKS FOR YOUR HELP. KNOWING THAT ALL THESE PEOPLE ARE STANDING WITH ME, I DON'T FEEL ALONE OR AFRAID ANYMORE.

-KATY

Figure 2. Katy Butler's anti-bullying campaign email via Change.org. This figure shows the main print text accompanying the videogame.

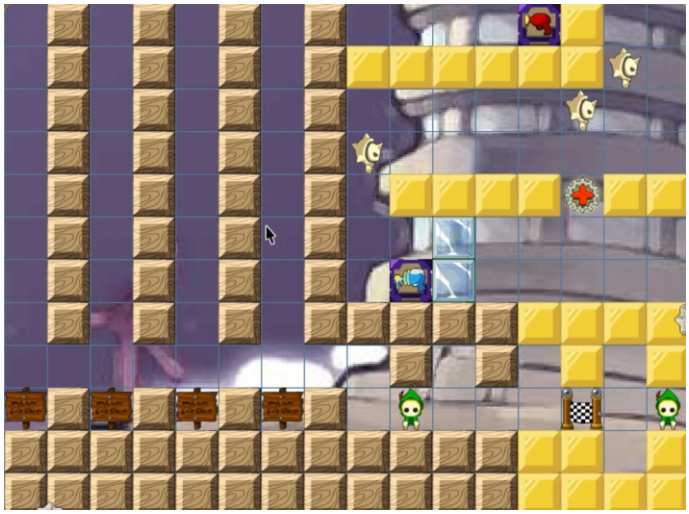

Figure 3. Screenshot of videogame. This figure shows a part of the videogame where the gameplayer encounters an inference question. The player must pass by the "Naviron Informers" (in green costume), who give directions and asks questions in the form of written text.

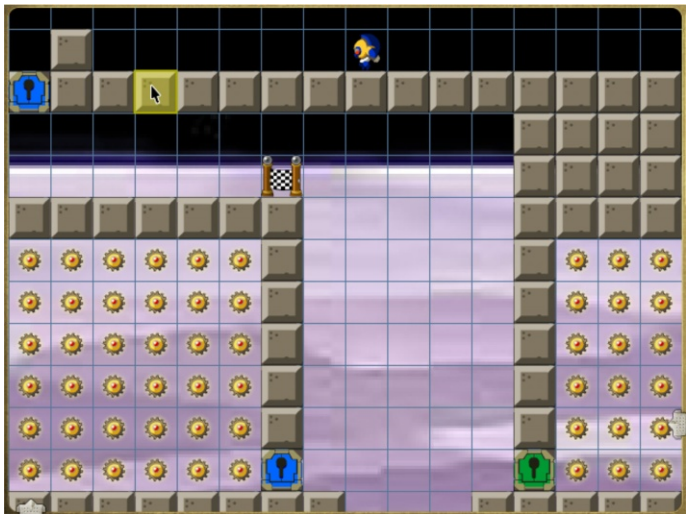

Figure 4. Screenshot of videogame. This figure shows coins to be collected by the gameplayer. In the videogame, the coins represent signatures to be collected for Katy Butler's anti-bullying campaign. To safely collect signatures in this part of the game, the player must navigate a maze and answer two questions from the lesson's main text, which is Katy's campaign email.

GAMING AND LITERACY

In this section, we describe our understanding of literacy and how it shaped the collaborative videogame design. Our approach was influenced by the notions of multiliteracies and readers as navigators and makers of meaning.

MULTILITERACIES

Rather than adhere to traditional notions of literacy pedagogy, which refers to teaching and learning to read and write words in page-bound forms, we take into account the developments of ever-changing multimedia technology that has prompted an emerging conceptualization of literacy: literacy teaching and learning includes negotiating multiple discourses (McKay & Wong, 1996) imbedded in multiple technologies (Gee, 2007). K-12 schools in the United States are experiencing substantial growth in the ELL population (August & Shanahan, 2006; U.S. Department of Education, 2003). In response to these demographic changes, perspectives on literacy instruction have expanded to become more culturally responsive (New London Group, 2000, p. 9). It is our belief that under this broadened perspective on literacy, videogames can have a meaningful role in a multiliteracies classroom (Lankshear & Knobel, 2008). Students in the English Language Arts classes interacted across modes with non-fiction texts and played a videogame about Katy Butler's anti-bullying campaign. The students were able to meaningfully navigate the videogame in a meaning-making process akin to interacting with a traditional print text (Smagorinsky, 2001).

Following the perspective of multiliteracies, the process of reading can be interpreted as an interaction with symbols and discourses. By extension, videogames offer a series of visual and audio symbols with which players interact (Steinkuehler, 2010). Hawkins (1991) explains that the application of literacy skills for ELLs "happens when the learners are actively engaged in interaction that gives meaning to the symbols with which they are working." (p. 178). By extension, Steinkuehler (2010) suggests that the process of playing a videogame involves "reading the game's meanings and writing back into them" (p. 61). In effect, the process for both reading a written text and playing a videogame is an interactive exchange of information.

MAKING SENSE OF THE VIDEOGAME

According to Gee's (2005) concept of "distributed authentic professionalism," a videogame player negotiates meaning as he/she develops strategies for interacting with a new domain of knowledge. Within this experience, the player becomes deeply involved in the objectives of the game, just as a reader of a traditional written text negotiates meaning and becomes involved in the text. Despite significant parallels between negotiating written texts and videogames, it is possible that interacting with a videogame is a more cognitively demanding task, as players must swiftly develop strategies to navigate and make meaning in a virtual world.

Our videogame began with an introductory session in which players were presented with a model of the structures and rules of the game, guiding students toward independent game play (Walqui, 2006). After the introductory model, the videogame provided instructions for players to navigate each level. The players manipulated their avatars and passed through virtual worlds from the perspective of Katy Butler to collect signatures for her anti-bullying campaign. Throughout game play, heterogeneous partnerships were formed for students who needed extra support to participate in the videogame. According to Salen (2007), videogames offer a "transgressive learning stance based in play" in which players contest the imposed boundaries of the game (p. 307). The ELLs challenged the structures of the videogame through their response, play and subsequent feedback, just as they might manipulate new vocabulary and grammatical structures as part of the language learning process (Ellis, Basturkmen, & Loewen, 2001).

QUESTIONS

1. KATY SAID THAT 300,000 PEOPLE SIGNED HER PETITION. WHY DID THESE PEOPLE SIGN HER PETITION? (INFERENCE)
   - THEY THINK THE DOCUMENTARY "BULLY" WAS WELL MADE.
   - THEY WANT TO MEET CELEBRITIES LIKE ELLEN DEGENERES AND MERYL STREEP.
   - THEY WANT KIDS TO WATCH "BULLY" TO LEARN ABOUT THE PROBLEM OF BULLYING.
   - THEY WANT TO MEET KATY TO LEARN ABOUT THE PROBLEM OF BULLYING.
2. WHAT DOES KATY HOPE WILL HAPPEN IF THE MOVIE RATING OF "BULLY" IS CHANGED FROM R TO PG-13? (INFERENCE)
   - THE DOCUMENTARY "BULLY" WILL MAKE MORE MONEY FROM MOVIE TICKET SALES.
   - KATY WILL BE FAMOUS.
   - PEOPLE WILL STOP BULLYING KATY.
   - MORE KIDS WILL BE ABLE TO WATCH "BULLY."
3. A LOT OF CELEBRITIES, LIKE JOHNNY DEPP AND JUSTIN BIEBER, HAVE PUBLICLY SAID THAT THEY AGREE WITH KATY'S CAMPAIGN.HOW CAN CELEBRITIES HELP KATY'S CAMPAIGN? (INFERENCE)
   - CELEBRITIES CAN MAKE A MOVIE ABOUT THE PROBLEM OF BULLYING.
   - CELEBRITIES CAN USE THEIR FAME TO TELL A LOT OF PEOPLE ABOUT THE PROBLEM OF BULLYING.
   - CELEBRITIES CAN HAVE A BIG CONCERT TO RAISE MONEY FOR KATY'S CAMPAIGN.

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4. KATY SAID THAT IT FELT GOOD TO KNOW THAT THE MOVIE "BULLY" TELLS THE STORY OF KIDS LIKE HER WHO WERE BULLIED. WHY DID KATY SAY THAT? (INFERENCE)
   - KATY THINKS THAT IF PEOPLE SEE THE STORIES OF KIDS LIKE HER WHO WERE BULLIED, KIDS WILL STOP BULLYING OTHER KIDS.
   - KATY THINKS THAT THE KIDS IN "BULLY" SHOULD BE FAMOUS.
   - KATY LIKES TO WATCH MOVIES ABOUT KIDS LIKE HER.
   - KATY LIKES "BULLY" BECAUSE THE KIDS IN THE DOCUMENTARY ARE HER FRIENDS.

OPINION QUESTIONS EMBEDDED IN THE VIDEOGAME (THE ANSWER THAT THE GAME PLAYER CHOOSES WILL DETERMINE WHAT CHALLENGE THEY FACE NEXT – THERE ARE DIFFERENT GAMES FOR EACH ANSWER CHOICE.):

- DO YOU THINK THAT BULLYING IS A PROBLEM AT YOUR SCHOOL? WHY OR WHY NOT? READ BOTH OF THE SIGNS UP AHEAD. THINK ABOUT WHICH STATEMENT YOU AGREE WITH AND FOLLOW THAT PATH. REMEMBER, THERE IS NO RIGHT OR WRONG ANSWER!
- WHO IS MORE RESPONSIBLE FOR PREVENTING BULLYING IN SCHOOLS - TEACHERS OR PARENTS? WHY? READ BOTH OF THE SIGNS UP AHEAD. THINK ABOUT WHICH STATEMENT YOU AGREE WITH AND FOLLOW THAT PATH. REMEMBER, THERE IS NO RIGHT OR WRONG ANSWER!

OPEN-ENDED QUESTIONS FOR DISCUSSION (SEE LESSON PLAN IN APPENDIX 1):

1. DESCRIBE A PERSON THAT KATY REMINDS YOU OF. THE PERSON CAN BE REAL, FOR EXAMPLE, ONE OF YOUR FRIENDS; OR THE FRIEND CAN BE FICTIONAL, FOR EXAMPLE, A CHARACTER FROM A FICTIONAL BOOK THAT YOU'VE READ. (CONNECTION)
2. WHAT DOES KATY'S STORY ABOUT BEING BULLIED REMIND YOU OF? (CONNECTION)
3. DO YOU THINK A LOT MORE PEOPLE WILL SIGN KATY'S CAMPAIGN? EXPLAIN. (PREDICTION)

Figure 5. Questions about Katy Butler's email campaign. This figure presents the multiple-choice questions weaved into the videogame. The underlined option is the "best" answer. As part of the lesson, students also discussed these questions.

Continuing with this idea of meaning making, if we adapt the notion that interpreting pictures on a page involves symbolic interpretation which require high-level cognitive skills (Hawkins, 1991), we could argue that gaming takes a learner in comparable but alternative steps. According to of the notion of gaming as literacy, gamers-as-learners utilize and further develop higher-order thinking skills, which involve "skills such as comprehension, analysis, synthesis, evaluation, and application," (McLoughlin & Mynard, 2009, p. 148) as they interact within a game system. As Squire (2005) highlights, "Success and even survival in the game [requires] deep thinking across diverse problem spaces." In this sense, "word and deed are united and the knower is a knower of specific kind—a type of active professional, not just a generic recipient of knowledge" (Gee, 2005). The aim was for the learner to actively construct and apply knowledge as he/she played and read the videogame. This resource orientation along with the notions of multiliteracies and meaning making formed the foundation of the formulation of our videogame and its role in the learning unit on bullying.

SCAFFOLDING WITH THE VIDEOGAME

We now turn to the underlying concepts, namely the notion of scaffolding, as informed by Teaching English to Speakers of Other Langauges (TESOL) that guided our collaboration in videogame design for literacy and language learning. Cummins (1981), in a seminal study in the field of TESOL, suggests that ELLs may need 4 to 10 years to develop proficient academic English skills. However, as Echevarria, Vogt, and Short (2007) argue, secondary level teachers cannot wait for ELLs to become proficient in academic English before teaching them in the content areas. According to this argument, teachers should teach both content and language, as is the case in this study's teacher's English Language Arts classes for ELLs. English Language Learners have the additional challenge of learning new content while simultaneously learning the structures of a new language. As such, scaffolds are necessary to support them in this cognitively demanding process (Watts-Taffe & Truscott, 2000). Scaffolds enable ELLs to engage in the learning process by presenting new language and content in a comprehensible manner.

The field of TESOL recognizes the value of including scaffolds to support student comprehension of language and content (e.g. Gass & Selinker, 2001). For example, in discussing the effectiveness of graphic novels in engaging ELLs in critical discussions, Chun (2009) offers the concept of comprehensible input (Krashen & Terrell, 1983), explaining that the visuals scaffold "textual meanings," allowing ELLs to overcome otherwise "formidable barriers" of a novel's written text (p. 146). By providing contextual and background information, the visuals create entry points to the written text, making the English language more manageable for ELLs (Chun, 2009). Research related to ELLs and various youth literacies point to the potential of videogames and multimedia technology as a scaffold for school literacy (Black, 2005; Harushimana, 2008; Kasper, 2000). Our videogame encompassed many elements that are regarded as effective forms of scaffolding in ESL contexts: visuals, video, movement, and role-plays

(Cary, 2000). Each of these elements was purposefully designed to enhance the students' understanding of new language and content (Johnson, 1982).

The videogame was one component of a comprehensive unit plan. As such, the students expanded upon the foundation of knowledge they had developed on the topic. Prior to playing the videogame, the students participated in various background building activities that supported reading comprehension (Carrell, 1983), including engaging in both print text and multimedia about bullying, to become familiar with the anti-bullying campaign email that they then read. After playing the videogame, the students discussed the written questions and responses embedded in the game and built upon their knowledge and interaction with the subject of bullying and associated language to participate in a discussion about the campaign email. The students employed reading strategies and engaged in dialogue to respond to questions, including "In your opinion, does Katy have a strong voice? Why do you feel this way?" and "Connect Katy's story about being bullied to a time in your own life or a time in the life of someone you know." These questions prompted students to examine the agency demonstrated by Katie, as well as apply the reading strategy of making text connections. The videogame acted as a "linguistic bridge" (Gibbons, 2003) by presenting the written text in a scaffolded manner, and supporting the students' participation in the class discussions. Furthermore, because our videogame was an integral part of a larger unit of study aligns with Young et al.'s (2012) proposition that "games cannot succeed as stand-alone solutions " (p. 83). That is, the videogame was one of many texts and materials utilized by the students in this English Language Arts lesson. Applying the idea that scaffolds assist in providing an entry to language, literacy, and content learning, we developed the videogame to serve as a scaffold in addition to its other roles in the learning unit on bullying.

REFLECTING ON THE STUDENTS

We discuss here our observations as former and current teachers, who are pausing to "puzzle" over, inquire into, and reflect on the process of developing and implementing the videogame in the classroom (Ballenger, 2009; Cochran-Smith & Lytle, 2009). Reflecting on our process in collaborating to create the videogame as well as the theoretical underpinnings, we believe that the videogame provided a means for students to experience ownership over their learning and provided a venue where their agency emerged. Given that ELLs comprise a typically marginalized student population (Harper, de Jong, & Platt, 2008), it seemed particularly appropriate to foster a learning space conducive to student ownership. One student in particular demonstrated a great sense of agency engaging in the videogame. Despite being classified as having a learning disability, the student was able to apply reading strategies to interpret texts, and become the first student to complete all five levels of the videogame. In playing this videogame, the student was able to demonstrate and utilize different types of literacy resources (Rowsell, 2013). Such a result was not observed when the student was required to engage in only traditional print text, highlighting the affordances of incorporating videogames and other forms of literacy in the classroom.

While traditional structures of instructional design do not include a space for students' voices, during these learning experiences students were positioned as experts and their critique of the videogame was valued. Two forms of student feedback were incorporated into the instructional plan for the videogame activity. During the sessions in which the classes engaged in the videogame, students provided online ratings through Gamestar Mechanic. Additionally, students completed more extensive written reflections on the videogame, which included suggestions to add new levels to the game, and develop a version for younger students, so they may also engage in learning about bullying. While analyzing the videogame through careful reflection, the students activated literacy skills and participated in the process of videogame design (Smith & Grant, 1999). These activities granted the students access to digital literacies and communities of learners (Black, 2005). Through these mechanisms, we hope our view of students as expert learners came to fruition, though we understand there is often more that a teacher could do to relinquish power in a space of learning.

Figure 6. Gamestar Mechanic online review instrument. This figure displays one way in which the students (the gameplayers) were able to provide feedback on the videogame.

Language and literacy instruction throughout the unit focused on the socially relevant issue of bullying, both in school and cyber contexts. The topic of bullying was selected as the content for this unit in anticipation of new legislation at the state level where the project was implemented. The new law sets standards and regulations for how students treat one another in the school setting with regard to race, culture, religion, gender identity, physical appearance and other personal characteristics. Throughout the unit, vocabulary included in the legislation, such as "bystander" and "upstander," were introduced to students to emphasize that, rather than simply observe a problem, students have the ability take action to improve the condition. In addition to the videogame, students interacted with various forms of literacy and media on the topic of bullying, as they read excerpts from the new legislation, newspaper articles, watched a documentary, interpreted a political cartoon and participated in a guest visit from a local police officer. After engaging in the series of lessons and activities, we hope the students were able to position themselves as experts on the topic of bullying, and shared their knowledge with younger students by writing children's books for an elementary ESL class in the district that was simultaneously engaging in a bullying unit. The students seemed to exhibit agency as they drafted and designed their books to enact social change.

The particular content of the videogame– Katy's anti-bullying campaign– exposed students to youth activism, providing a springboard for the students' potential future activism. Engaging in the videogame and the lesson provided training grounds for and a simulation of an activism project to equip students to lead their own social justice campaign. The teacher introduced the students to the website, www.change.org, where Katy initiated her original petition. Students explored the site and selected petitions that were meaningful in their own lives, including those that addressed animal rights, international issues and immigrant rights. The videogame served as an introduction for students to gain awareness of social issues, and demonstrate the manner in which they may act as agents of social change. In effect, the videogame and accompanying instructional activities enabled students to explore social issues beyond bullying that are meaningful to their own lives, and recognize their capacity to bring about change as local and global citizens.

FINAL THOUGHTS: LOOKING AHEAD

Considering student learning as the major goal, this project linked a classroom teacher and two researchers to utilize their knowledge and resources to support instruction in an English language learning environment. As in all partnerships, consistent communication was key. We dialogued to execute our shared vision of a videogame that was an integral part of a lesson plan within a larger learning unit. Rather than simply design an instructional program for "intermediate level" ELLs, the game developers used samples of students' schoolwork and feedback from the cooperating teacher in order to tailor the program to the strengths and needs of students. Similarly, all stakeholders frequently communicated via email, telephone

and in-person meetings in order to track the progress of the course and individual students, and to modify their plans accordingly.

An instrumental piece in this process was Gamestar Mechanic, which facilitated a reflective journey in game design. Such open software proved important for researchers and teachers with little experience in creating videogames to immediately begin working and playing in a digital space. As such, our reflection and design was instrumentally linked to the unique features and user-friendly aspects of Gamestar Mechanic.

The gap between research and practice is often discussed, but our collaborative efforts highlight ways and areas in which such a divide can be bridged. That is, we have attempted to work within a framework of collective inquiry. The relational dynamics of this project were crucial to its success – all stakeholders shared a fundamental belief in the need to ground our project "in the problems and contexts of practice…and in the ways practitioners collaboratively theorize, study, and act on those problems in the best interests of the learning and life chances of students and their communities" (Cochran-Smith & Lytle, 2009, p. 123). Though this collaboration was in the spirit of collective knowledge construction between communities and universities, the students were ultimately at the heart of the project goals.

Admittedly, our collaborative efforts could be improved upon, as is often the case with endeavors in education that challenge the status quo. At the very least, we hope that this school-university partnership may serve as a model for others on both sides and inspire future collaborative inquires. Schooling is becoming increasingly restricted by curricular requirements and mandated standards; nonetheless, there is still space for the creativity and collective voices of educators—researchers and teachers alike—all with the aim of increasing access to learning and helping our learners to thrive.

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JULIE WARNER

10. WRITING IN VIRTUAL WORLDS: SCRATCH PROGRAMMING AS MULTIMODAL COMPOSING PRACTICE IN THE LANGUAGE ARTS CLASSROOM

Hayley and Emir, sitting two at the computer, take turns dragging and dropping Lego-like digital blocks from one section of the screen to another in the Scratch program interface. "Press the flag!" says Emir to Hayley, who has control of the mouse. As Hayley maneuvers the cursor to click the green flag in the top right-hand corner of the screen, the two students watch the cartoon-like avatars on the right side of the screen move about in reaction to their building-block code. When they do not like the way that the avatar has reacted, they go back, rearrange the coding blocks, and press the green flag again to check for the response they desire. There is much trial and error, but the students never lose momentum. Once they have successfully animated their avatars, they begin to add sounds to their program. Deciding they have not yet mastered this skill, they navigate to the Scratch website and, locating a tutorial, find the process for adding sound. The tutorial, created and uploaded by another young Scratch user, is interactive. It, too, was made using Scratch.

Scratch, released to the public in 2007 (scratch.mit.edu), is an open-source educational programming tool for creating videogames. It was designed to allow young people to create complex multimodal (using multiple channels of communication beyond just linguistic symbols) compositions with ease. In addition, Scratch's designers envisioned that the Scratch programming language would teach young people the basics of programming while sharing their projects and Scratch programming knowledge with each other, learning reciprocally through a community of practice (Lave & Wenger, 1991). As Scratch programmers view Scratch projects they like, they can access the programming code and integrate the code into their own projects.

Developed for use by six to 16-year-olds, elementary, middle, and high school teachers can use this tool in their classrooms to develop skills in narrative composing with new media tools. Teachers can use Scratch to support an array of traditional English Language Arts (ELA) skills like narrative writing, revision, attending to grammar, and organization of ideas; it also supports the development of media, technology, and computational thinking skills (Grover & Pea, 2013) including computer programming. And since Scratch taps into multiple modes of expression beyond just written (linguistic) text, it is an apt tool for those students who have traditionally underperformed in ELA and may benefit from an expanded communicative toolkit.

H. R. Gerber & S. S. Abrams (Eds.), Bridging Literacies with Videogames, 187–205.

NEW LITERACIES

The illiteracy scare of the 1980s brought on by *A Nation at Risk*, a report by then-President Ronald Reagan's National Commission on Excellence in Education, seemed to inspire research around the out-of-school literacy practices of young people (Gardner et al., 1983). In reaction to the assertion that youth were falling behind the rest of the world in the area of literacy, scholars sought to illuminate all the ways youth demonstrated literacy in their lives (Lankshear & Knobel, 2008). A vast expansion within the electronics industry happened around this same time, and the out-of-school, computer-mediated literacies practices of young people became a focus of literacies research.

Since then, stakeholders are increasingly regarding literacy less as a set of discrete skills and instead as what people are actually doing in their everyday lives that involve reading and writing (Street, 1984; 1993). Hinchman and Alvermann (2012) point out that because "multiple bridges connect texts, purposes, tasks, identities, social affiliations, media, and settings," (p. xiii) the lines between in- and out-of-school literacies are becoming blurred. The term "new literacies" has emerged to represent all of the ways that people use a variety of texts in their lives. However, the term is most often associated with digital literacies practices, including reading and writing digital texts, Internet literacies, informational literacies, "computational literacy" (diSessa, 2001), and others which "broadly fall under a new literacies umbrella" (Coiro, Knoblel, Lankshear, & Leu, 2008, p. 10) involving new technologies.

Inherent to arguments about the nature of literacy learning in the 21st century is the notion of social futures (Cope & Kalantzis, 1999; New London Group, 1996). As technologies impact the English language and the notion of literacy is accordingly destabilized, what will students need to be considered literate in their social futures? In other words, what knowledge and skills will help students to be successful in reaching their life goals? As technologies mediate more and more of the reading and writing tasks that are required of students in the classroom, skills in programming, a language skill usually segregated from ELA into the area of computer science, will be of paramount importance. Russian computer scientist Andrei Ershov recognized this decades ago in 1972: "To be a good programmer today is as much a privilege as it was to be a literate man in the sixteenth century" (p. 504).

VIDEOGAMES AND NEW LITERACIES

As young people have taken up new literacies with fervor, educators have been interested in the ways that bringing digital literacies into the classroom can make "schooled literacy" more relevant for youth in changing times. Popular culture has lost the stigma it once had, relegated to out-of-school time alone (Page, 2012). Instead, educators now commonly look to the ways students engage with popular culture to scaffold school-sanctioned literacy learning (e.g., Black, 2008; Buckingham, 2008; Gainer & Fink, 2008; Hill & Vasudevan, 2008; Laman, 2012).

One such genre within popular culture increasingly tapped by educators is the videogame. As videogames have grown in popularity, they have become a focus for researchers. Just how popular are videogames? In 2009, 60% of middle and high school aged students reported that they played videogames daily (Rideout, Foerh, & Roberts, 2010). A Pew Internet and American Life study found that 97% of teenagers are gamers (Lenhart et al., 2008). While initially, the popularity of videogames led many to fear their influence was negative (Squire, 2002), more recently, researchers have begun to focus on the educative potential of videogames. A recent review of literature on gaming for education by Young et al. (2012), for example, reviewed studies on games for learning science, history, mathematics, English, and even physical education (eg., Din & Calao, 2001; Kuppens, 2008; Zheng, 2006).

Videogames' potential for literacy learning in particular has been well documented (e.g., Adams, 2009; Ashton, 2010; Burke, 2012; Burke & Kafai, 2010; Hawisher & Selfe, 2007; Ip, 2011a, 2011b; Sanford & Madill, 2007; Steinkuehler, 2008). Perhaps the most influential work in this area is Gee's (2007) text on videogames, learning, and literacy. In this work, Gee pinpoints 36 learning principles that videogames support, including active and critical learning, design, reading, risk-taking, and self-knowledge. Many of the principles he outlines relate specifically to literacy learning, though Gee's view of literacy as "social and cultural practices with economic, historical, and political implications" (p. 9) is quite panoptic.

Games have most often been demonstrated as effective in teaching narrative writing or storytelling. This makes sense since at their core, games are narratives that can be manipulated or "played" (Burn, 2009). Burn (2009) calls this the "narrative potential" of games. In games, one "plays" the existing story: the basics are set out, the beginning, middle, and ending are implied, but improvisation, a sort of co-authoring, is required (Alberti, 2008; Burn, 2009; Gee, 2007). Gee uses the term "embodied stories" (p. 79) to describe the ways that players' choices and actions re/write the stories.

Thus, playing games has been recognized as a form of authorship. However, young people engage in writing the videogames themselves as well. This requires some programming knowledge, but writing games also recruits narrative concepts such as plot development, characters, conflict, and setting. Burke (2012) explained the "overlapping forms of composition" (p. 122) involved in writing games, the "coded narrative," (p. 123) which is the hidden programming code, and the multimedia narrative that plays out on the screen. In his study of ten middle school students, aged 12 to 14, participating in a seven-week writing workshop wherein the students composed digital stories in Scratch programming language, Burke (2012) outlined the ways the students learned programming knowledge and narrative writing skills concurrently through the workshop.

Other researchers who have explored young people writing code with various programming platforms including Stage Cast Creator with seven to 11 year olds (Habgood, Ainsworth, & Benford, 2005), GameMaker for game writing for mobile platforms (Pericles, 2007), Logo with fourth grade students (Kafai, 1995), and

creating custom modules for the game *Neverwinter Nights* (Robertson & Good, 2005a; Robertson & Good, 2005b; Howland, Good & Robertson, 2006; Szafron et al., 2005). These studies showed the ways that young people learn computer literacy skills through writing videogames. As they engage with hardware and software for making videogames, students develop or recruit technical skills. These skills might include, for example, recognizing and navigating the typical features of an applications window like a scroll bar or a drop-down menu. They gain exposure to the cursor-to-mouse connection, dialogue boxes, the use of common commands like Find, Undo, or Select, and ways of navigating within the interface. The Common Core writing standards require that students "use technology" for writing in grades 6-12, and as such, these basic skills are crucial (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). In addition, the students must employ narrative writing skills in their stories' development.

The narrative writing skills used in playing and writing videogames have been observed to transfer over to writing linguistic texts. For example, Robertson and Good (2003) studied children using a role-playing game called Ghostwriter as a prewriting activity to examine whether or not they employed richer characterization in the stories they wrote based on the avatars they manipulated in the game. The researchers found that the relationships between characters were more developed in the stories after the children used the game.

Games have been used in other creative ways to teach writing. Gerber and Price (2011) described methods for using videogames to teach expository and creative writing. In a writing activity called a "walk-through," students write an informational text about a videogame that provides background information about the game's storyline as well as practical knowledge for navigating through the game. According to the authors, this kind of writing must be detailed, clear, and specific (p. 70). Persuasive writing can be supported by videogames as well. The authors described argumentative writing activities based on videogames carried out on blogs or a class Ning (a popular social networking site). They named war games and first-person shooter games as appropriate platforms for persuasive writing. Creative writing, too, can be supported through the use of videogames. Students can write fanfiction (a genre wherein students extend storylines from a game or "borrow" characters from a game to create new storylines), poetry, lyrics, or screenplays based on videogames (p. 71).

Adams (2009) explored teaching methods using videogames for reluctant readers. She described how the text-rich role-playing game *Neverwinter Nights* helped her students learn new vocabulary words and other reading skills like comprehension and reading for information (p. 58). Adams argued that "virtual literacy" (which she separates from informational literacy) is important for students because they learn to "'read' authors' intentions by making inferences and comprehending the codes involved in the online world" (p. 58). But in addition to traditional reading skills and virtual literacy, videogames can "create those meaningful experiences that add relevance to students' reading" (p. 59). Since reading and writing are inextricable, videogames can be harnessed in this way to support writing in ELA.

MULTIMODALITY AND VIDEOGAMES

Multimodality, or modes of communication beyond the linguistic alone, including visual, auditory, and kinekonic, or that of the moving image (Mills, 2011), is quickly gaining recognition as a central feature of communication in contemporary culture (Siegel, 2012). diSessa (2001) describes children's engagement with a software called Boxer, maintaining that students can express more with programming, which is layered expression (visual, auditory, kinekonic, and linguistic), than with just linguistic text. diSessa (2001) argues for the importance of matching the "mode of inscription" to the communicative purpose. Each mode of inscription, according to diSessa "has its own structure, expressive range, associated modes of thought, and 'intellectual allies'" (p. 7). Motion, he posits, can be expressed better through programs than through something like audio, for example. As such, programming as a mode is the intellectual ally of motion. diSessa entreats us to consider the mode most apt for the function when composing:

> Aptness is critical. Every inscription system is apt for some things and less apt for others. Programming, like arithmetic, is evidently not very apt for poetry or for discussing the nature of computational media, but it happens to be quite superb for motion. (p. 32)

This expansion of the modal palette beyond the linguistic mode alone allows for expanded communicational possibilities for literacy students.

MEDIA LITERACY

As stakeholders have come to recognize media literacy as central to new literacies, researchers have explored the ways that young people learn media literacy through writing games. Since games are media texts, creators of games are producing media texts, which can foster media literacy as students become not only critical consumers of media but also creators of media (Burn, 2009). Koltay (2011) maintained that media literacy is best cultivated through media creation. For example, Squire (2008) described an educational program created with game writers including SONY Imageworks that required young people to "identify an existing media property, creating a game design and pitch materials, and then [do] a 20-minute design brief before a team of experts from academia, industry, and business" (p. 662). In this way, students learned media literacy by engaging in media creation through media production and by exposure to the commercial gaming industry.

VIDEOGAMES AND SCHOOL ACHIEVEMENT

Videogames have been shown to be appropriate for literacy learning and engaging for students in a media-saturated world, but have they been shown to impact achievement? A number of studies have explored the impact of playing videogames on student learning. Chuang and Chen (2009) conducted a study in Taiwan with

108 third graders learning about fire-fighting through computer-assisted instruction and a videogame. They found that the videogames supported the students' cognitive processes and that play supported learning and development. In another study, Loyalist College found that engagement with a virtual world led to a 30% improvement in students' test scores on a critical thinking test (Hudson & deGast-Kennedy, 2009). Researchers have even examined the effects of videogames on creativity. Scholars at Michigan State University surveyed 491 middle-school students in a National Science Foundation-supported study as to their frequency of videogame play and then tested creativity using the Torrance Test of Creativity-Figural. Of the participants, they found that they were more creative in writing stories and drawing the more they played videogames (Jackson et al., 2012). There is, then, evidence that videogames can aid the learning of content knowledge, critical thinking, and creativity, all of which support literacy learning.

GETTING STARTED: SCRATCH PROGRAMMING LANGUAGE

Because of its user-friendly design, Scratch is appropriate for teachers and students new to writing videogames or programming. In addition, since all Scratch projects are open-source, that is to say, the code behind every game is available to everyone, it is easy for a new Scratcher to learn from the work of others. However, Scratch can be used by veteran programmers as well, since the language allows for complex compositions by those with more advanced programming skill. As such, it is a suitable tool for differentiated learning (in other words, for use with all students).

At the time of this writing, there are over three million projects from around the world hosted on the Scratch website. A social hub where youth digital content creators share and remix others' Scratch projects, the Scratch website includes featured projects, video tutorials, and wiki support. A forum section on the Scratch website includes places for discussion around topics that include "Help with Scripts," "Show and Tell," "Project Ideas," and "Collaboration" among others. At the time of writing, over 319,000 users have communicated via the forums on creating Scratch projects. Creating real media with others, required by the Common Core State Standards, can be accomplished through partnerships facilitated by the ScratchEd message boards (http://scratched.media.mit.edu/discussions).

COMPOSING IN SCRATCH

The creators of Scratch sought to make a low-barrier means of computer programming for children. To use Scratch to construct videogames and compose digital stories of other kinds, composers drag and drop "building blocks" reminiscent of Legos™ that initiate actions in their program. In this way, the software allows them to imagine, plan, and build virtual worlds quickly and without much technical knowledge.

Composing in Scratch is similar in many ways to writing process with linguistic texts. In programming, as is true in other languages, there are certain constraints

or rules, which ELA educators would recognize as grammar. But unlike English grammatical rules which must be memorized, the constraints within Scratch are communicated visually through the shape of the blocks. The shapes of the blocks suggest what can and cannot be built onto them, as shown in Figure 1. Figure 1 demonstrates how the shape of the blocks suggest which blocks are compatible, and thus, how the composers can and cannot assemble the code.

Figure 1. Scratch blocks.

Characters and other objects that can be animated in Scratch are called costume sprites (see Figure 2). The software comes with many costumes, in folders labeled animals, fantasy, letters, people, things, and transportation. Costumes for sprites can be imported into the program from digital image files as well. Composers can even import photographs of famous people, their families, or their classmates to animate within Scratch. In addition, composers can draw their own costumes for sprites using the Sprite Paint Editor, seen in Figure 3.

In Scratch, backgrounds are also sprites because they too can be animated, but they are labeled within the program as Backgrounds (see Figure 4). Just as with the character sprites, Scratch includes stock backgrounds, or students can import backgrounds. Alternatively, they can paint their own. In this way, students can tell a story about a familiar place by taking and importing a photograph of their own town, or tell a fantasy story by painting their own imaginative background. There are scaffolds and freedoms that can be utilized and exercised depending upon student readiness.

The Scratch composing screen, shown in Figure 5, is divided into thirds. In the leftmost third, the composer has a palette of motion, control, sound, and other command blocks from which to choose called the button screen. Composers can drag command blocks from the button screen to the center column called the code screen. The rightmost column is referred to as the stage and it is here where the composer can view the actions initiated by their codes. As such, the two layers of

Figure 2. Examples of costume sprites.

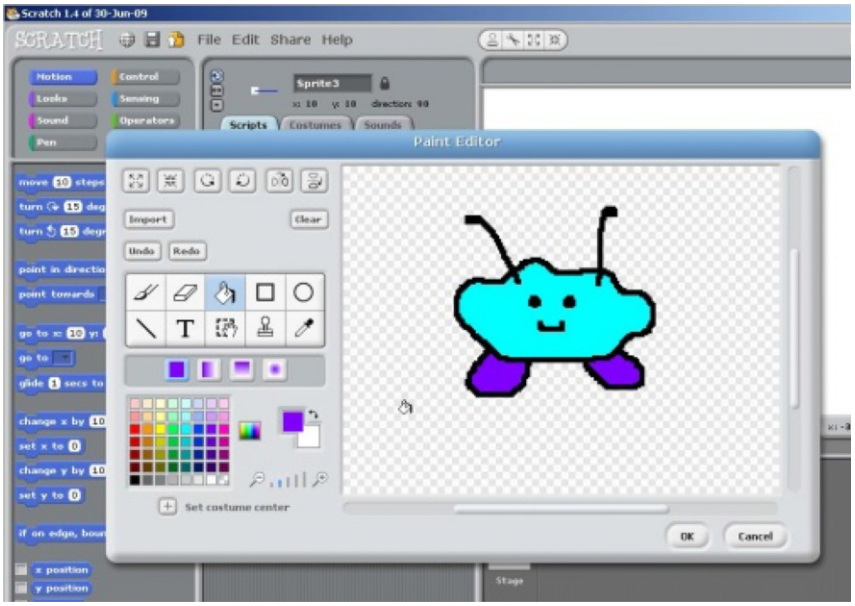

Figure 3. Sprite Paint Editor.

Figure 4. Examples of stock backgrounds that are preloaded in Scratch.

Figure 5. The Scratch interface.

the game can be "read" in two parallel languages, one symbolic and one visual. This affords a composer who is learning to compose through programming languages timely feedback about how the code is communicating or failing to communicate. Creating programs in Scratch requires ongoing revision of students' programs as they write the code and then run the code to see the outcome. In this way, revision is almost constant, streamlined with the composing process itself.

diSessa (2001) describes this property of programs like Scratch as "synthetic:" "Programs are not just analytic and a basis for reasoning. They are also synthetic. They can be run" (p. 34). He goes on to point out that this property represents what is most powerful about programs as a form of writing:

> 'Make it experiential' is perhaps the single most powerful educational heuristic that I know. Experts aren't left out either. The synthetic power of computer programs, for example, to simulate weather or global warming transcends all other inscription systems (p. 35).

Indeed, the fact that the code creates an experience rather than lying inert is powerful for learners. Imagine if a story written in linguistic text could be "run" and the author could watch the narrative unfold before his or her eyes. This is what happens in Scratch, but with programming language.

Because of the program's fast response to changes in the code, Scratch encourages experimentation and play; in the words of the Scratch creators, it is more "tinkerable" (Resnick, et al., 2009, p. 63). This quality of being tinkerable acts as a scaffold for those without much technical knowledge or skill. They can rely on trial and error to get the results they desire. No manual is needed; no teacher is needed. The Scratch creators explain that this is the logic behind the Lego brick design:

> Given a box full of LEGO bricks, children will start tinkering. They'll snap together a few bricks, and the emerging structure will give them new ideas. As children play and build with LEGO bricks, plans and goals organically evolve along with the structures. We wanted the process of programming in Scratch to have a similar feeling…As with LEGO bricks, connectors on the blocks suggest how they should be put together. Children can start by tinkering with the blocks, snapping them together in different sequences and combinations to see what happens (Resnick et al., 2009, p. 4).

In Scratch, while some planning can be carried out beforehand, much of the composing happens in the space of the program. As Alberti (2008) pointed out, composing in digital spaces that allow for play "rewrite[s] the conceptual binary of process and product in composition pedagogy" (Alberti, 2008, p. 1). In Scratch, composition and revision happen simultaneously as students create codes, watch how their sprites react to that code, and tweak that code according to their desired outcome. The immediate feedback is what makes composing in Scratch so engaging.

CAN I BORROW THAT? REMIXING AS A SCAFFOLD WITHIN SCRATCH

Buckingham (2008) reminds us that media education is inherently social because media is social. Media producers work from prior knowledge gained from other media and other people. Going further, he insists, "imitation is an indispensible aspect of learning" (p. 134). The Scratch website includes several components written by Scratch users to support newcomers to Scratch programming, including a Scratch wiki, a Scratch resources site, and a forum where Scratch composers can post questions or offer help (Figure 6). The categories within the forum are set up for getting help with scripts, "show and tell," project idea sharing, a collaboration thread to help connect potential programming teams, and other means towards sharing, helping, and getting support.

Figure 6. The Scratch forums.

Another feature of Scratch that supports newcomers through collaboration is that Scratch projects are open-source. This means that when composers upload their

projects, the source code is available to other Scratchers. Other users who view the projects and like what they see can copy the code or parts of the code to use within their own Scratch projects. Note the option to "download this project" in the top right corner of the screen that accompanies this Scratch project in Figure 7.

Figure 7. A Scratch project showing download capacity, top right

If a Scratch composer likes a particular facet of a Scratch project they view on the site, they have the option to download the project and cut and paste the code for the element they like into their own project. This can support novice programmers in learning how the codes translate into sprites, actions, backgrounds, etc. It also allows for a novice to put a project together using bricolage, or by piecing together bits of code from several projects to create a new work as a scaffold into Scratch composing. In Scratch, remix is supported, even encouraged, by its open-source design, the "share" button built into the design screen, and the social network that is attached to it. Appropriation and free-sharing of this kind has become part and parcel of new media culture. In fact, the name Scratch is derived from the term "scratching" that describes what remixing DJs do when they splice together different music tracks (Resnick et al., 2009).

CREATING A SIMPLE NARRATIVE WITH SCRATCH

To get started storytelling with Scratch, some teachers prefer that students create a storyboard on paper prior to using computers to bring the story to life. Others favor a more organic digital process. Even with storyboards, students often stray from the original plan once they have the opportunity to explore the capabilities of Scratch, which comes loaded with many settings, characters, and sounds. Showing students sample Scratch projects on the Scratch website that match the teacher's desired student outcome an apt way to begin in either case. (There are several featured at the Scratch website here: http://scratch.mit.edu/studios/138297/) Students may need a basic lesson in creating an animation with Scratch prior to composing a digital story or videogame. Teachers can students choose a sprite and play around with the blocks, seeing how the code will make the sprite react. Scratch cards (http://info.scratch.mit.edu/Support/Scratch_Cards) can be printed out and made accessible to the students as they learn the basics of Scratch programming; the cards are two-sided printable PDFs that show both the action and the code students use to create the action. Teachers can give students a rubric, such as the sample in Figure 8, to guide their process.

Part 1: Establish a Setting or World

Teachers can have students click the white box near the bottom right side of the screen that says "stage," allowing students to choose between exiting files with various settings, or paint their own original setting image. The setting acts as an inert background upon which the animations can move about; advanced users can animate the backgrounds as well. Students can also upload their own files to use as settings. For example, students can bring archival photos from home, or go out and photograph the school or sites within the local community to use as the setting. There is no limit to how many settings are brought into a Scratch project. Students can change backgrounds according to the necessary scene changes in their story.

Part 2: Add or Create Characters

Just as with the background images, students can choose between existing characters within Scratch, paint new ones, or import photographs to use as characters in their project. In Scratch, characters are referred to as sprites. To add a new sprite, click one of the buttons next to "new sprite." They are: Paint your own sprite, get an existing sprite from a file, or get a surprise sprite. If students want to get rid of a selected sprite, they can delete it by selecting the scissors from the tool bar and clicking on the sprite. Each sprite has a name that displays beneath the icon. Students can also choose a sprite from existing files. The bundled sprites are categorized into **Animals, Fantasy, Letters, People, Things**, and **Transportation**. The **create new sprite** option allows students to draw a sprite using the Paint Editor.

Feature	4 – Excellent	3 – Satisfactory	2 – Developing	1 – Needs Attention	0 – Not present
Setting(s)	Story contained 4 backgrounds that supported the settings of the narrative	Story contained 3 backgrounds that supported the settings of the narrative	Story containted 2 back-grounds that supported the settings of the narrative	Story contained 1 background	No background
Characterization	Visual, auditory, and text elements of characters supported characterization; all characters were distinct and developed.	Some visual, auditory, and text elements used as characterization for most characters	Some attempts at character development in a few characters	Little character development	No character development
Plot/Action/ Conflict	Story had a clear and well-developed plot and the animation of the characters supported plot development	Story had a clear plot and the animation of the characters supported plot development	Some attempts at plot development and some animation	Little plot development or animation	No plot development
Story Structure	Story had a clear beginning, middle, and end, with some creativity in structural choices	Story had a clear beginning, middle, and end	Story's structure was unclear at times	Story's structure was unclear	No structure
Grammar and Mechanics	Story was free of grammatical and mechanical errors	Story had very few grammatical and mechancial errors	Story had noticible grammatical and mechanical errors	Story had copious grammatical and mechanical errors	Grammatical and mechanical errors were distracting and overshadowed the story

Figure 8. Sample rubric for a standards-based Scratch project.

Part 3: Animate Characters with Scripts

At this point, students can make a sprite speak. Click the Looks category and get a SAY block. Click inside the SAY block and type to change the words. Students can add as many as desired to keep the monologue going. Add another sprite to have a conversation. Click on that sprite to add scripts for it. Each sprite will have its own set of scripts. Think of the scripts as the directions for the sprites who are actors.

The scripts not only allow students to make the sprites speak, but they are also used to animate the sprites. There are several options for animating sprites ranging from simple to complex. The place to begin is with the built-in commands for moving sprites. Once students have mastered the built-in commands, they can try complex animation by using "costumes" they draw themselves that utilize a "flip book" effect to create the illusion of movement. Built-in commands can be found within the code screen's Motion section. The two modes of animation in Scratch are (1) using degrees and steps or (2) using the Cartesian Coordinate System (x,y). To use degrees and steps, students first maneuver the sprite in the direction (represented by degrees) that they wish it to move by dragging it with the mouse. Then, they can command the sprite to move a certain number of steps in the coding screen. For example, students choose an initiating action, such as, "When Start Button is Clicked," and then point the sprite according to their wishes, e.g., "Point in direction -40," and then enter the number of steps, e.g., "Move 7 steps." Alternatively, using the Cartesian Coordinate system, students hover the mouse over the stage, and the (x,y) coordinates are revealed beneath the stage. Students can enter several commands using the coordinates, such as "Set y to 40," "Go to X:32 Y:-40," or "Change Y by 9." Again, the script must begin with an initiating action, such as a click of the green flag, or a click of the sprite.

These are the building block commands that students can use to achieve a multimodal representation of the story they have imagined or written. Teachers can decide what programming structures to assess in addition to any narrative features that are in the curriculum.

EXTENSIONS: BRINGING VIDEOGAMES INTO THE WRITING PROCESS

Scratch can be used to create a multimodal digital story product. It can also be integrated at other junctures in the writing process and to teach concepts in composition.

Videogame-supported Revision

Students are often reluctant to revise writing because they find it difficult to get the distance from a piece of writing necessary to see where adjustments might be made. To use videogames to aid revision, teachers can ask students to use linguistic

writing to describe characters for a story, and then use videogame writing software to develop those characters. After creating those characters visually and "bringing them to life," students could then turn back to the linguistic version of the story to revise and add detail based on their experience with the program.

Teaching Elements of Rhetoric

The idea of rhetoric is as old as the writings of Aristotle, yet the digital writing of games recruits rhetorical strategies such as audience awareness, planning and outlining, revision, and publishing. The Common Core 6-12 writing standards require:

> With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010).

Since the act of creating a game is truly "creative" in the etymological sense of the word; that is to say, there is a product that can be shared with others, videogames exist for real audiences, the players. Publishing original work for real audiences has been shown to increase motivation and learning (Sefton-Green & Buckingham, 1998) unlike the "pseudotransactional" (Petraglia, 1995) kinds of literacy activities that usually happen in schools. Creative production for a larger audience has shown to be of importance to students (Papert, 1980, 1994; Kafai, 2006), and it brings narrative writing into the realm of real life for them.

In writing games, students must tailor their games or stories to particular audiences with particular levels of readiness, and plan the various facets of the game accordingly. As they create a story or game, they must constantly run their program, experiencing it as their audience will, to ensure that the code is correct (i.e., leading to the desired outcome).

Teaching Genre or Form and Function

To bring discussion of the best modes of expression for story elements into the ELA classroom, teachers can use videogames. The Common Core State Standards for 6-12 ELA dictate that students should:

> Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010).

To approach this standard using videogame writing, teachers can have students create a written story that includes action. Then, students should be instructed to create that same story using videogame software. Teachers can parlay this experience into a discussion of the specific ways that the multimedia aided comprehension of the story for an audience (e.g., "seeing" the characters, experiencing the motion of the story kinekonically) and extend the conversation to discuss the affordances of various genres of expression like painting, song, recipes, shopping lists, poems, etc.

Teaching Grammar

As discussed, programming languages have their own grammars. To use a programming language to teach English grammar, a teacher can show students a snippet of a programming language, and have them try to decipher it just from reading the bit of language. What action would it initiate in a program? After some time, the teacher can run the program and show the students the outcome. As this is repeated a few times, students can discuss how the language seems to "work." Then, have students begin to write using the structures in the program as a scaffold. Let them run the programs they have written, and see if they effected their desired outcome. Teachers can then route the conversation toward a discussion of the parts of speech in the English language and how they function in relationship to the programming language. Students could even create a visual heuristic akin to Scratch blocks that visually suggests how the parts of speech work.

Playing Videogames as Writing

Teachers can use playing videogames as an entryway into the world of writing with those students who profess to be non-writers or for those who have a difficult time getting started with narrative composition. Either at school or as an out-of-school homework assignment, have students play a videogame for thirty minutes, pausing it in five-minute increments to turn to a pen and paper or a word processing program to capture, in writing, the story that is "unfolding" for the character that the student embodies. As an extension, teachers can debrief with students about the choices they made as "co-writers" of the story as well as those fixed features of the narrative built into the game. They will begin to see themselves as writers, as well as explore the idea of storytelling from a rich, immersed perspective.

MULTIMODALITY AND THE FUTURE OF WRITING INSTRUCTION

With expanded toolkits for communication beyond linguistic symbols (Siegel, 2006), what will be possible? Lanier (2010), often called the father of virtual reality, described a future where "postsymbolic" communication might be possible:

> Suppose we had the ability to morph at will, as fast as we can think. What sort of language might that make possible? Would it be the same old conversation, or would we be able to "say" new things to one another?
>
> For instance, instead of saying, "I'm hungry; let's go crab hunting," you might simulate your own transparency so your friends could see your empty stomach, or you might turn into a video game about crab hunting so you and your compatriots could get in a little practice before the actual hunt.
>
> I call this possibility "post symbolic communication." It can be a hard idea to think about, but I find it enormously exciting. It would not suggest an annihilation of language as we know it—symbolic communication would continue to exist—but it would give rise to a vivid expansion of meaning.
>
> This is an extraordinary transformation that people might someday experience. We would then have the option of cutting out the "middleman" of symbols and directly creating shared experience. A fluid kind of concreteness might turn out to be more expressive than abstraction.

Lanier's thinking is exciting, yet I find the notion of programming (which is essentially writing in code) as a more direct form of expression than writing in linguistic codes problematic. What I do find seductive are the expressive possibilities of programming that are not possible through oral or linguistic communication. diSessa (2001) pointed to the need for a computational medium to be expressive through what he calls the "principle of expressiveness:" "A computational medium must be expressive. It must extend minds with new ways of thinking and knowing." (p. 111). What kinds of expression will be salient in the future? What new ways of thinking and knowing will be possible through new expressive modes? This question should guide our thinking about what kinds of modes will be important to teach and through what media. One thing that is for certain is that the kinds of literacies that will be salient for the future are more expansive than those emphasized by contemporary government-mandated curriculum. As Gee (2007) implored us:

> In the modern world, print literacy is not enough. People need to be literate in a great variety of different semiotic domains…The vast majority of these domains involve semiotic (symbolic representational) resources beyond print. (p. 18).

What separates games and other forms of narrative writing is that the narrative elements must be expressed multimodally. Burn (2009) aptly described creating games as "…multimodal work, including writing…" (p. 114). Creating games provides an opportunity for rich storytelling expression through music and narration, still and moving images, and structural choices. For those students who are not as adept with print literacies or creating linguistic texts, communicating through an expanded modal palette can widen the circle of who can participate in the classroom (Siegel, 2006) and the possibilities for what new ideas can be expressed.

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