
Massively Multiplayer Online Gaming as a Constellation of Literacy Practices

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ABSTRACT The claim that video games are replacing literacy activities that is bandied about in the American mainstream press is based not only on unspecified definitions of both 'games' and 'literacy' but also on a surprising lack of research on what children actually *do* when they play video games. In this article, the author examines some of the practices that comprise game play in the context of one genre of video games in particular – massively multiplayer online games (MMOGs). Based on data culled from a two-year online cognitive ethnography of the MMOG *Lineage* (both I and II), the author argues that forms of video game play such as those entailed in MMOGs are not replacing literacy activities but rather are literacy activities. In order to make this argument, the author surveys the literacy practices that MMOGamers routinely participate in, both within the game's virtual world (e.g. social interaction, in-game letters) and beyond (e.g. online game forums, the creation of fan sites and fan fiction). Then, with this argument in place, she attempts to historicize this popular contempt toward electronic 'pop culture' media such as video games and suggest a potentially more productive (and accurate) framing of the literacy practices of today's generation of adolescents and young adults.

Based on media coverage, one would think that the United States were in a modern-day literacy crisis, thanks particularly to new digital technologies such as video games. Recent publications include books with titles such as *A is for Ox: the collapse of literacy and the rise of violence in the electronic age* (Sanders, 1995).[1] Survey experts report that video games are now 'the fourth most dominant medium, displacing print media' (Mandese, 2004). Meanwhile, news reports quote researchers as stating, 'students will be doing more and more bad things if they are *playing games* and not doing other things like *reading aloud*' (Wearden, 2001, emphasis added).[2] This concern about video games somehow replacing literacy activities is perhaps best summed up in a recent *New York Times* editorial by Solomon (2004), who states that electronic activities – video games given as the quintessential example – are 'torpid', 'by and large invite inert reception', and are one of the primary causes behind the 'closing of the American book' (Weber, 2004). Yet, all the while, video gaming is only becoming more and more ubiquitous in contemporary American youth culture, with more than eight out of every ten children in America having a video game console in the home, and over half having two or more (Rideout et al, 2005). Based on claims such as these, one might indeed feel cause for alarm.

There are two problems, however, with such arguments. The first is a lack of specificity about the 'cause' of the purported problem. While video games are often singled out as a (if not the) primary technological culprit of the supposed 'literacy crisis', *which* games are being referred to is left chronically underspecified. Even when we ignore, for sake of argument, the fact that games are, by definition, a thoroughly *interactive medium* and are therefore taken up in dramatically different ways by different people, we are still left with the problem of their diversity in design. Games vary wildly in nature, including such diverse forms as: arcade games (e.g. *PacMan*), first-

person shooters (e.g. *Deus Ex II*), sports games (e.g. *Madden*), adventure games (e.g. *Syberia*), the so-called 'god games' (e.g. *Civilization III*), social simulation/doll-house games (e.g. *The Sims*), survival horror games (e.g. *Eternal Darkness*), real-time strategy games (e.g. *Age of Empires*), massively multiplayer online games (e.g. *World of Warcraft*), role-playing games (e.g. *Morrowind*), music/rhythm games (e.g. *Guitar Hero*), and puzzle games (e.g. *Bejeweled*). Precisely *which games* are such denouncements referring to? Without further specifying the 'cause', it becomes a bit like talking about 'reading' as a black-boxed variable (Reading what? With whom? In what context?)

The second problem with claims about video games replacing literacy is another lack of specification: what definition of literacy is being used in claims that it is 'at risk'? The term itself is a contested one, with (from a simplified view) at least two basic schools of reasoning defining it in markedly different ways. On the one hand, there is the fairly traditional definition of literacy used, for example, as the basis for determining national literacy rates: 'an individual's ability to read, write, speak in English, compute and solve problems at levels of proficiency necessary to function on the job, in the family of the individual and in society' (National Institute for Literacy, n.d.) Although this definition does go beyond the mere ability to decode and encode alphabetic symbols, the primary emphasis remains on print-related activities in a singular national language. On the other hand, and in contrast, there is the definition of literacy espoused in New Literacy Studies (e.g. Gumperz, 1982; Heath, 1983; Street, 1984, 1993; Kress, 1985; Cook-Gumperz 1986; Cazden 1988; Gee, 1992, 1996, 1999, 2003; Barton, 1994; Lankshear, 1997; Knobel, 1999; Lankshear & Knobel, 2003):

the increasing multiplicity and integration of significant modes of meaning-making, where the textual is also related to the visual, the audio, the spatial, the behavioral, and so on ... particularly important in the mass media, multimedia, and in an electronic hypermedia. (New London Group, 1996, p. 64)

Here, strong emphasis is placed on the ability to both recognize *and produce* meanings in a given semiotic domain, with particular attention given to sense making in multimodal, multimedia spaces such as those enabled by digital technologies. If we are to claim that video games are in competition with literacy in some way, we must specify not only *which video games* but also and perhaps more crucially *which literacy* – the 'mere literacy', as the New London Group (1996, p. 64) calls it, of decoding and encoding print (traditional definition) or the ability to make sense out of semiotic systems that include a diversity of communicative modes (contemporary definition)?

The claim that video games are replacing literacy activities that is bandied about in the American mainstream press is based not only on unspecified definitions of both 'games' and 'literacy' but also on a surprising lack of research on what children actually *do* when they game. In this article, I examine some of the practices that comprise game play in the context of one genre of video games in particular – massively multiplayer online games (MMOGs). Based on data culled from a two-year online cognitive ethnography of the MMOG *Lineage* (both I and II) (Steinkuehler 2005), I argue that forms of video game play such as those entailed in MMOGs are not replacing literacy activities but rather *are* literacy activities. In order to make this argument, I survey some of the literacy practices that MMOGamers routinely participate in, both within the game's virtual world (e.g. social interaction, in-game letters and orally delivered narratives) and beyond (e.g. asynchronous discussion on online game forums, the creation of fan sites and fan fiction). Then, with this argument in place, I attempt to historicize this popular contempt toward electronic 'pop culture' media such as video games and suggest a potentially more productive (and accurate) framing of the literacy practices of today's generation of adolescents and young adults.

Research Context and Methods

Massively Multiplayer Online Games: the case of Lineage

MMOGs are highly graphical two- or three-dimensional video games played online, allowing individuals, through their self-created digital characters or 'avatars', to interact not only with the gaming software – the designed environment of the game and the computer-controlled characters within it – but with *other players'* avatars as well. Conceptually, they are part of the rich tradition of alternative worlds that science fiction and fantasy literature provide us (e.g. Tolkien's *The Hobbit*,

1938); technically, they are the evolutionary next step in a long line of social games that runs from paper-and-pencil fantasy games (e.g. Gygas & Arneson's *Dungeons & Dragons*, 1973) to main-frame text-based multi-user dungeons (e.g. Trubshaw & Bartle's *MUD*, 1978) through the first graphical massively multiplayer online environments (e.g. Kirmse & Kirmse's *Meridian 59*, 1996) to the now-common, high-end three-dimensional digital worlds of today (for a complete, if now dated, history, see Koster, 2002). The virtual worlds that today's MMOGamers routinely plug in and inhabit are persistent social and material worlds, loosely structured by open-ended (fantasy) narratives, where players are largely free to do as they please – slay ogres, besiege castles, craft a pair of gaiters, barter goods in town, or tame dragon hatchlings. They are notorious for their peculiar combination of designed 'escapist fantasy' yet emergent 'social realism' (Kolbert, 2001): in a setting of wizards, elves, dwarfs, and knights, people save for homes, create basket indices of the trading market, build relationships of status and solidarity, and worry about crime.

Lineage, the MMOG context of this research, is now in its second incarnation. *Lineage I: The Blood Pledge* was first released in Korea in 1997. After three years of domination in the Korean gaming sphere, it expanded to the USA and currently boasts roughly 1.5 million global subscribers despite its steady decline in population since the 2004 release of its sequel (Woodcock, 2006). Its three-dimensional sequel, *Lineage II: The Chaotic Chronicle*, released in Korea in November 2003 and expanded to the USA in April 2004, currently claims over 1.2 million concurrent subscriptions globally (Woodcock, 2006). Within the game, members of all races (human, orc, elf, dark elf, dwarf) and classes (fighter, crafter, mage, etc.) join forces in the form of guilds to compete for castle control in server-wide sieges and battles. In both incarnations, the *Lineage* clan system is tightly coupled to both the guiding narrative of the game and the virtual world's economic system, resulting in a complex social space of affiliations and disaffiliations, constructed largely out of shared (or disparate) social and material practices.

Methods for Research

Lineage constitutes a robust social and virtual-material world, one that warrants full investigation in its own right, much as a new country or culture in the tangible geographic world might. As an educational researcher, I am keenly interested in the intellectual substance of such virtual worlds: What do people learn through participation in such spaces? And how is it that such learning happens? How do the intellectual practices entailed in successful MMOG play align (or fail to align) with our educational standards? And how might the knowledge and skills leveraged in virtual worlds 'pay off' in the purportedly 'real' one? Toward answering those questions, I conducted a qualitative study of cognition and learning in MMOGs (Steinkuehler, 2005). This study consisted of a two-year ethnography of the MMOG *Lineage* (first I, then II) conducted from a sociocultural perspective that views cognition as 'a complex social phenomenon ... distributed – stretched over, not divided among – mind, body, activity and culturally organized settings (which include other actors)' (Lave, 1988, p. 1). The goal of this project was to explicate the kinds of social and intellectual activities in which gamers routinely participate, including individual and collaborative problem solving, joint negotiation of meaning and values, and the coordination of people, (virtual) tools and artifacts, and multiple forms of text.

Cognitive ethnography (Hutchins, 1995) – the description of specific cultures in terms of cognitive practices, their basis, and their consequences – was chosen as the primary research methodology as a way to tease out what happens in the virtual setting of the game and how the people involved consider their own activities, the activities of others, and the contexts in which those activities take place (Steinkuehler et al, 2005). This 'thick description' (Geertz, 1973) included 24 months of participant observation in the game, several thousand lines of recorded and transcribed observations of naturally occurring game play, collections of game-related player communications (e.g. discussion board posts, chat room and instant message conversations, emails) and community documents (e.g. fan websites, community-authored game fictions, company- and community-written player manuals and guidebooks), and both unstructured and semi-structured interviews with multiple informants (a snowball sample of 16 key informants throughout the course of the investigation). In this article, I analyze *Lineage* game play as a constellation of literacy

practices, based on my two-year participant observation in the daily life of the game and critical reflection on the data set in light of interviews and discussions with my informants.

The Literacy Practices of MMOGS

From the Contemporary Point of View

Let us begin with the New London Group (1996) definition – the notion that literacies (plural) crucially entail sense making within a rich, multimodal semiotic system, situated in a community of practice that renders that system meaningful. Figure 1 shows the interface of the MMOG *Lineage II*, one of the primary virtual world contexts in which the ethnographic data described herein was collected. We might ask ourselves, how many adults (let alone tenured professors) can ‘read’ such a space? Without prior experience in *Lineage II*, or at a minimum in some other MMOG design, few could make sense out of the seeming sundry assortment of images, bar graphs, texts, icons, and symbols. Yet, for gamers who have mastered this interface, it is a completely transparent (albeit dense) semiotic system. Such mastery is a prerequisite to any successful game play, yet little is known to date about how gamers manage to parse such visual arrays so quickly and adeptly. Knowledge of and facility with other game interfaces surely facilitates such learning; further research is necessary, however, for us to better understand how gamers come to so easily ‘read’ such dense representations in order to use them as mediating tools for virtual action.



Figure 1. Interface of the MMOG *Lineage II*.

In Figure 1, bar graphs (top left corner) show the status of your avatar in terms of health points, mana points, and experience points, with your avatar’s current level denoted by a number in the far top left. Below that is the status bar of all members of your current party, which allows you to monitor *their* overall health and adjust your own behavior accordingly. To the immediate right of your avatar status window (top, mid-left of screen) are icons and symbols denoting magic spells cast upon your avatar, each of which has its own unique function and therefore changes what you can and cannot do. At the top right corner of the interface lies the radar, which displays your position in relation to the in-game cardinal directions and other members of your current party. In

the bottom left corner is the chatbox containing multiple threads of conversation (denoted in different colors), each of which serves a different communicative function as determined by in-game community norms (Steinkuehler, 2006a). At the bottom of the chat window itself are buttons that denote the various 'chat commands' used to engage in said chat channels, such as trade solicitations (on global channels), party chat, and alliance chat – each of which engages a different although overlapping group of other gamers, used for different purposes and in different contexts. On the bottom right of the interface are hotkeys that provide access to various management screens, each containing another complex set of symbols and text, that in turn provide access to the game system settings, your avatar's current inventory, your character screen, elaborate maps of the virtual kingdom (and your current location within it), and even in-game threaded discussion boards. To the right side of the interface are action icons and symbols that, when clicked, enable your avatar to take various specific actions related to monsters you are hunting, other players in your party, or your own virtual self. In the main game window, on the right-hand side, is the exchange window that allows players to give or trade various items in their avatar's current inventory such as potions, raw materials, money, or supplies.

The particular scene portrayed in the main game window of Figure 1 is an instance of the *Lineage II* community ritual of gift giving. It was my 'real life' birthday (Adeleide is my avatar) and therefore in-game friends were giving me celebratory symbolic tokens – gestures of good will, hard work, and camaraderie. Thus, despite the length of the above translation of the gaming interface, it still says very little about the actual sociocultural norms and the shared practices that tie them together into one coherent surface on which each gamer 'writes' their own ongoing narrative (Clinton, 2004; Robison, 2004), let alone the meaning of the avatars of other players that act on screen or how one comes to successfully inhabit the virtual kingdom of the game. The official strategy guide to *Lineage II* is a daunting 288 pages, yet most experienced gamers master these semiotic aspects within the first few hours of play.

Thus, if we take the contemporary definition of literacy as 'sense making' within a multimodal, socially situated space, then surely the most mundane versions of MMOGaming demonstrate fluency and participation in a thoroughly *literate* space of icons, symbols, gestures, action, pictorial representations, and text. Gamers must continually 'read and write' meaning within this complex semiotic domain as every successful move within the virtual environment requires participants to both recognize and produce meaning out of the overwhelming array of multimedia, multimodal resources that make up the game. Thus, there is a strong argument to be made, based on the New London Group (1996) definition, that playing an MMOG is itself a literacy activity, albeit one that the non-gaming but vocal public may find a bit too opaque to readily participate in and appreciate. Such a definition of literacy, however, for some may seem too liberal. It is worthwhile, then, to interrogate MMOGaming as a literacy practice from the more restricted definition espoused by more traditional crowds.

From the Traditional Point of View

Let us start again, but this time with a more restricted definition of literacy as the 'ability to read and write print text'. Are video games (MMOGs, in particular) in competition with text literacy? My goal here is to make the stronger argument that, even with a narrowed definition of what literacy is and means, MMOGs are indeed a constellation of literacy practices. When children and adults play MMOGs, they read and write copious amounts of text. Figure 2 charts various forms of textual practices that make up online games. Despite its complexity, this diagram is actually based on those literacy practices found in *Lineage I*, an MMOG now considered fairly 'retro' in its simplicity, and contains only a selected subset of the core literacy practices that constitute game play. At the center of the diagram are the text chat channels discussed previously, through which players communicate with one another while in the virtual world (center square). Through these channels, participants engage in (inter)action using alphabetic and keyboard characters not only as *symbols* (e.g. to form morphemes such as those found in the 'I334 speek' sentence, 'afk g2g too EF ot regen no poms' (for a complete analysis of this utterance, see Steinkuehler, 2006a) but also as *icons* (e.g. '@>~~~~~' to represent a flower) and *indexes* (e.g. '*sniff*' to signal public pouting).

Each of the text chat channels themselves (whispers, party chat, guild chat, alliance chat, public chat, yells, global) has a defined function and social norms for use in different contexts. For example, the whispering channel is used for private conversation between two people whereas the public channel is used to communicate with others in your immediate virtual vicinity. Successful MMOGameplay requires not only mastery of each text chat channel individually but also the ability to ‘surf’ across them such that one can read and write text appropriate to each in each.[3] From the perspective of the individual, this means negotiating multiple threaded conversations across multiple chat channels, often while carrying on activities with one’s avatar in the main game window.

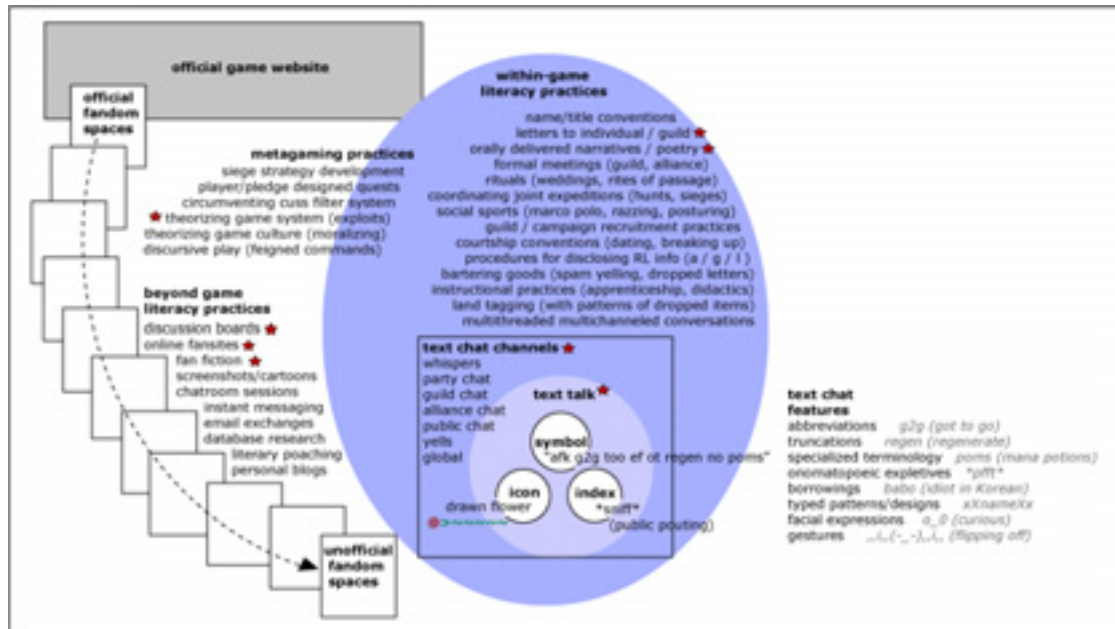


Figure 2. The constellation of literacy practices that constitute game play in the MMOG Lineage I. Selected practices discussed within this article are starred.

Out of these basic resources – the shared conventions of ‘Lineagesese’ and multiple chat channels for communication – participants engage in multiple forms of recognizable and coherent literacy practices within the game’s virtual world (the center oval in Figure 2); for example:

- the titling of avatars (e.g. ‘[LoA]Princess to denote guild membership and rank);
- letter writing (discussed below);
- ‘orally’ delivered narratives and poetry (also discussed below);
- formal conventions for holding meetings (e.g. introductions, agenda setting, discussion and debate, and collaborative decision making);
- rituals (e.g. weddings, rites of passage, celebrations of individual and group successes);
- the coordination of joint expeditions (e.g. procedures for gathering supplies, coordinating targets, dividing up any riches obtained, and debriefing afterward in order to improve coordination the next time around);
- social sports (e.g. games of ‘marco polo’ and ‘ritual insult’ [Goodwin, 1990]); and
- instructional practices (e.g. apprenticeship [Steinkuehler, 2004]).

This is only to name a few. All such practices are accomplished through in-game actions and profuse amounts of reading and writing of in-game typed talk.

Other literacy practices, however, go *beyond* the in-game virtual environment itself and spill out into world of the online fandom that surrounds it (the array of smaller boxes on the left of Figure 2). Online fandom is comprised of a vast array of beyond-game literacy practices such as the development and maintenance of game-related fan sites and blogs; discussion and debate of game-related issues on threaded discussion boards (Steinkuehler & Chmiel, 2006); the creation and distribution of fan fictions, fan art, annotated game screenshots and cartoons; and deliberation via

game-specific chat rooms, instant messaging, in-character emails, and even Voice over Internet Protocol (VoIP) forums. Many important literacy practices, such as *metagaming* (described in greater depth below), actually span both the virtual in-game world and online fandom beyond it, shifting seamlessly from in-game conversation to online interactions in other forums and back again.

Thus, the ‘magic circle’ (Huizinga, 1938) that purportedly bounds the game world from everyday life is, in practice, a fuzzy boundary. At the *macro level*, participating over time in MMOGs entails not only (inter)action in the game’s virtual environment but also the production and consumption of online fandom content in the form of discussion boards, website contributions, creative endeavors such as writing stories, and the like. At the *micro level* of a given moment in an individual’s game play, participation means movement among multiple ‘attentional spaces’ (Lemke, n.d.), as shown in Figure 3. Thus, the literacy practices that comprise MMOGs are not isolated and autonomous but, rather, interrelated in complex and mutually defining ways.

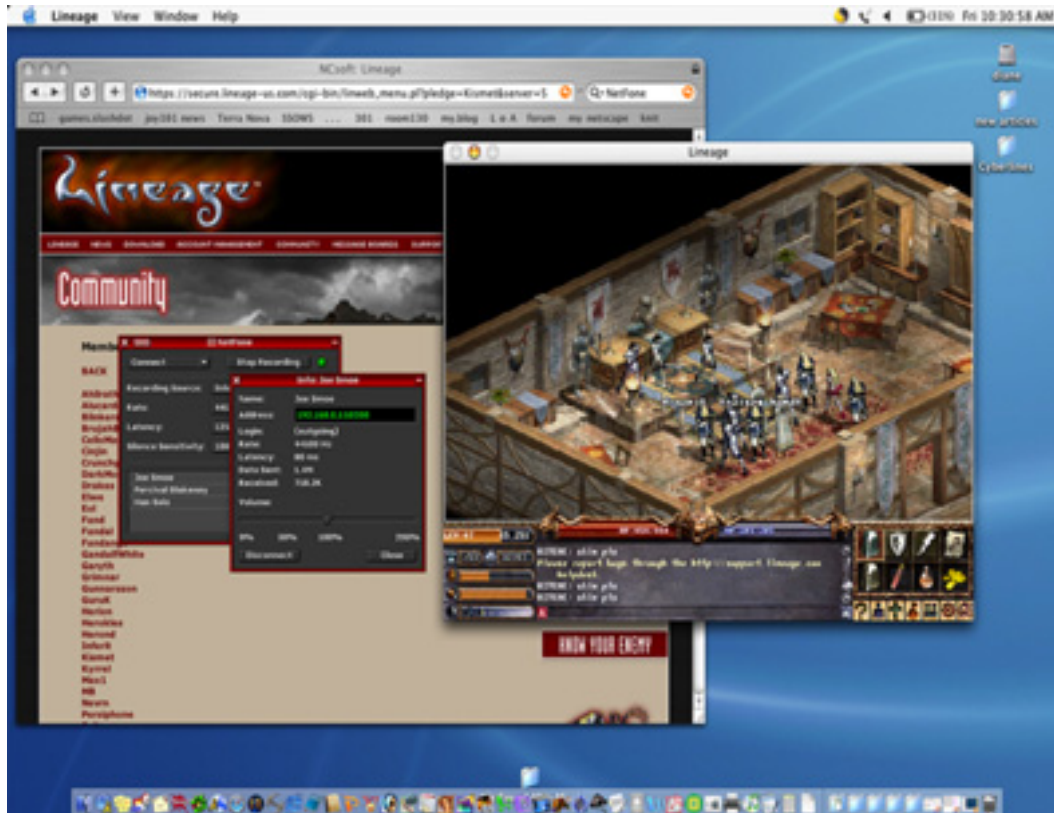


Figure 3. Desktop during a typical moment in game play in which the virtual environment of the MMOG is only one window among several in which the individual reads and writes.

In what follows, I examine a selected subset of these literacy practices for closer examination, beginning first with in-game practices and then moving out beyond the game’s virtual world into the fandom that surrounds it.

In-game text talk. As Turkle (1995) notes, the specialized linguistic practices that online gamers use to communicate appear to a non-gamer much like the ‘discourse of Dante scholars, “a closed world of references, cross-references, and code”’ (p. 67). It is a sort of *hybrid writing*, ‘speech momentarily frozen into ... ephemeral artifact’ (p. 183). At first blush, the use of language within such digital worlds appears rather impoverished: It is riddled with:

- *abbreviations* (e.g. ‘g2g’ for ‘got to go’);
- *truncations* (e.g. ‘regen’ for ‘regenerate’);
- *typographical errors* (e.g. ‘ot’ for ‘to’);

- *grammatical errors* (e.g. the adverbial form ‘too’ in place of the prepositional form ‘to’);
- *syntactic erosions* (e.g. the omitted initial string ‘I have’ from ‘[I have] g2g’, [Thrashes, 1974[]); and
- *specialized vocabulary* (e.g. ‘poms’ for ‘potions of mana’, a liquid potion that increases the rate at which one’s ‘mana’ or magic power is restored after depletion from repeated spell use).

Such typed utterances appear to be a meager substitute for everyday oral and written speech. However, its code-like appearance is misleading: Closer examination of such talk reveals that, in fact, Lineages (like other MMOG variants) serves the same range and complexity of functions as language does offline (Steinkuehler, 2006a). It is simply forced to do so within the tight constraints of the given medium of communication (one small chat window, as shown in Figure 1, with a maximum turn of 58 characters allowed per turn) and the fact that communication typically occurs in tandem with ongoing activity (e.g. hunts, battles, trades) that require keyboard and mouse commands of their own.

The range of communicative activities one can accomplish through alphabetic and keyboard characters alone is rather remarkable, although for MMOGamers such facility with typed talk is simply par for the course. For example, one can dismiss another’s argument without stating so outright (and therefore becoming accountable for the action) through the use of *onomatopoeic expletives* such as ‘*pfft*’. One can convey *facial expressions* (e.g. ‘o_o’ for curiosity or disbelief) and *bodily gestures* (e.g. ‘.,i.,(-_-),,i,’ for making a rude gesture to someone using both middle fingers) with the use of only alphabetic characters and punctuation marks. And too, in such virtual spaces, distinctions among various national languages are, at times, blurred due to ready borrowings from one to another. For example, in *Lineage I*, which originated in Korea, English speakers readily borrow the romanized Korean word ‘babo’, which translates as ‘idiot’ or ‘stupid’, and conjugate it into a variety of forms, such as ‘What you just did is total baboage’. The use of such borrowings, within the game, tacitly signals a kind of social status: Korean players on American servers are generally seen as more ‘hardcore’ than their western counterparts; thus, the use of Korean borrowings integrated into English dialogue in social interactions displays status by implied affiliation with advanced players in the game.

At any given point during game play, an individual must negotiate not only the diversity of forms of typed communication described above but also multiple text chat channels, each with its own function and social norms for use. For example, consider the transcript shown of in-game chat in Figure 4 that transpired over roughly two minutes of game play.[4]

Notice that, within the space of roughly two minutes of game play, there are at least five overlapping conversational activities happening at once. In the *public chat channel*, a group of guild members exchange greetings as they gather in the virtual town of Giran to engage in a joint hunting expedition in the nearby forests. In the *guild chat channel*, there is negotiation between the guild leader (Adeleide) and guild members about the addition of a new member to the group (the ‘real-life’ husband of the leader) and the subsequent self-designated titling of said leader as ‘Lysanderv’. This particular form of title (partner’s name followed by ‘v’ to represent a heart) is reserved within the guild for members who have gone through an in-game marriage ceremony. Adeleide and Lysander have not; therefore, the group conversation shifts from inquiry into the identity of the new guild member (Lysander) to comedic debate about the legitimacy of Adeleide’s self-designated title. Note, toward the end of the guild conversation, the playful use of the feigned game command ‘/banished’. Within the game world, individuals can accomplish various actions by issuing DOS-like commands (‘/’ followed by text). In this case, only the leader can ‘banish’ another member from the guild; therefore, the use of this command is ‘feigned’ and functions as a playful imitation of what the leader *would* do to someone who assumed a guild title without appropriate authorization (in this case, formal marriage), if it were not for the fact that she herself broke the rule. In the *private whisper channel*, the author (Adeleide) and the general (Liadon) engage in personal banter. Meanwhile, in the *yell channel*, a game of ‘marco polo’ transpires, followed by a stranger’s announcement in Giran of equipment for sale. It is also worth noting what happens toward the end of the transcript when the author (Adeleide) fails to respond to a public statement from HoHummm. When her response is delayed due to the cognitive demands of keeping up with multiple simultaneous strands of typed interaction, Hohumm presumes *not* that she is unable to keep pace with the ongoing talk but rather that *she is ignoring him*. In the context of MMOGs, the ability to successfully negotiate multiple threaded conversations across multiple chat channels at

once is *presumed* such that failure to do so successfully is interpreted not as lack of *ability* but lack of *intent*. Such constant conversation through this myriad of chat channels is not only necessary to navigate the virtual world's diverse challenges but is the very fodder from which individuals create and maintain relationships of status and solidarity and, in part, in-game community and cultural norms.



Figure 4. Transcript of roughly two minutes of multiple-threaded conversation during a typical evening in Lineage I.

In-game written letters. In MMOGs such as *Lineage*, individuals also read and write letters to one another (or to entire guilds) as a way to communicate asynchronously within the game world. Such artifacts can serve a variety of functions, ranging from very formal (e.g. invitations to guild or alliance meetings, orders from leaders to their troops) to very informal (e.g. personal accounts for absences from the game, playful bantering among friends). Figure 5 shows two such letters, both of

which fall on the more formal end of the spectrum. The two share common features one might find in contemporary business letters or other official correspondence, such as an opening greeting line, a closing signature, and a date (automatically added by game system). Both use rather antiquated language such as ‘assist to a meeting’, ‘if you wish’, ‘m’lady’, and ‘granted the honor of acceptance’. Letters, like turns of talk within the chat channels, allow only a set number of typed characters per page; therefore, both documents in Figure 5 also contain periodic abbreviations (i.e. ‘CST’ for ‘central standard time’ in the first, ‘wud gr8tly’ for ‘would greatly’ in the second). What is most curious about the two artifacts in Figure 5, however, is that both authors self-identified in interviews as ‘poor writers’ – the first speaks English as a second language, the second works in technology and claims to be a ‘poor speller’ – yet both display an observable mastery of the genre of in-game formal correspondence, including structural conventions, forms of address, and use of grammar and abbreviation (given spatial constraints).

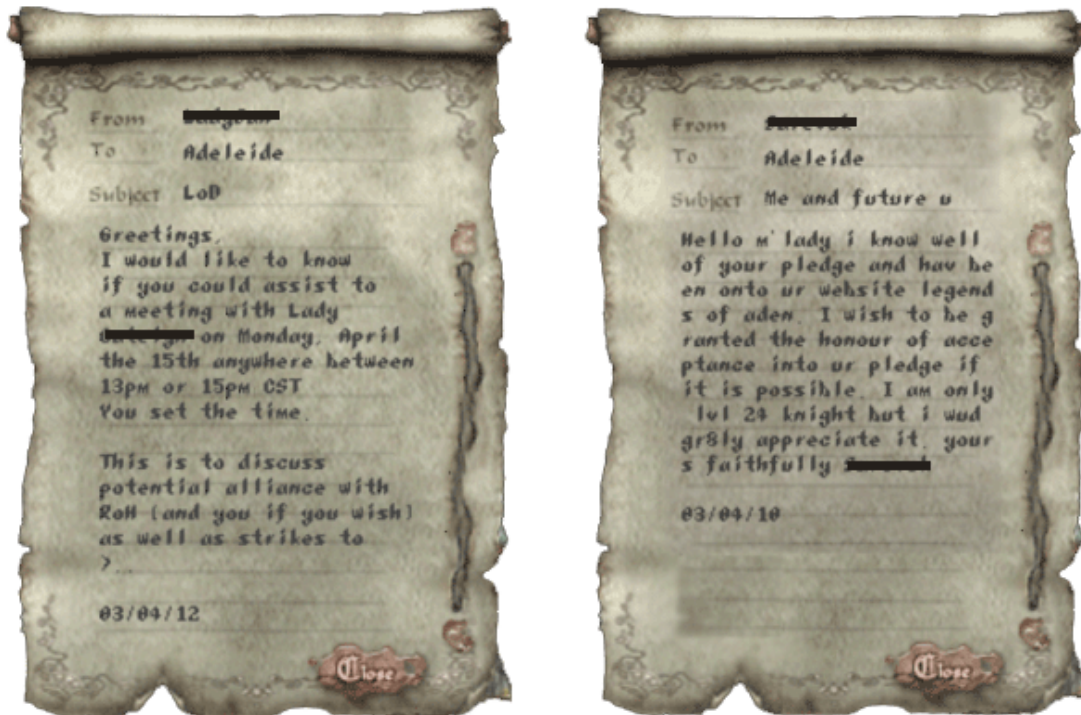


Figure 5. Two in-game letters written by two different authors in Lineage.

In-game ‘orally delivered’ narratives. Another form of reading and writing that MMOGamers engage in when they play is the production and consumption of ‘orally delivered’ narratives and poetry. In such performances, individuals adopt and adapt designed-in elements of the game narrative to craft their own ‘oral’ storytelling performances. (Here, ‘orally delivered’ simply means adapted for in-game speech, which must still be accomplished within the virtual environment as written text.) Figure 6 shows an example of such oral narration. Here, Liadon, a highly skilled gamer within *Lineage* (an elf avatar over level 40) orally narrates the origins of fairies, small pixie-like butterflies that populate the Elven Forest within the game, to Adeleide (a very low-level or ‘newbie’ elf). The episode occurs when the two characters are out hunting together in an area called the Elven Forest in order to give the less-experienced elf practice hunting with a bow.

First, Liadon sets up the motivation for telling the story by inquiring as to whether or not Adeleide knew about the origin of the fairies (lines 1-2). The topic is situationally relevant since the two are hunting together in the Elven Forest where such computer-generated fairies are quite prevalent. The activity under way is one of apprenticeship (cf. Steinkuehler, 2004) in which Liadon, the master elf, engages Adeleide, the learner elf, in the joint activity of a normative elven hunting expedition in elven territory. Thus, it safe to assume that the addressee is not familiar with the story but should be, as it is part of the ‘shared history’ of being an elf within the virtual world. In

line 3, Adeleide indicates no knowledge of the tale, thereby prompting the ‘orally delivered’ narrative (‘Oooh, story time!’ line 4). Liadon then goes on to produce a narrative that has all of the classical structural features (Labov & Waletzky, 1967; Labov, 1972): orientation (lines 5-8), complicating action (lines 9-11), evaluation (lines 13-19), resolution (lines 20-23), and coda (lines 25-27).

1	Liadon	you know how the fairies originally came into	Motivation
2	Liadon	being, right?	
3	Adeliede	no how?	
4	Liadon	Oooh, story time!	
5	Liadon	once, back when the world was young and the	Orientation
6	Liadon	gods roamed the world as mortals, Einhasad	
7	Liadon	was in the forest	
8	Liadon	and decided to create the race of elves	
9	Liadon	none of the other creatures wanted to help	Complicating Action
10	Liadon	because they did not know it was Einhasad in	
11	Liadon	her mortal form	
12	Adeliede	oh!	
13	Liadon	But 4 exceptionally kind creatures did give	Evaluation
14	Liadon	their assistance	
15	Liadon	that is another story entirely, but one was	
16	Liadon	the humble butterfly	
17	Liadon	She did not have much to offer, but spared	
18	Liadon	some dust from her wings to allow Einhasad	
19	Liadon	to make the elves.	
20	Liadon	As a reward, those butterflies who assisted	Resolution
21	Liadon	were given the gift of immortality and made	
22	Liadon	fairies	
23	Liadon	The fairy queen was the original butterfly	
24	Adeleide	how did u know all that?	Coda
25	Liadon	I'm smart :p [joking face]	
26	Liadon	Every elf knows that.	
27	Liadon	Seriously, though. the mother tree told me	

Ldn1/03.29.03

Figure 6. Transcript of an in-game ‘orally delivered’ narrative explaining the origin of the fairies in the Elven Forest. Stanza breaks and line numbers have been added for ease of reference.

While the structural features of the ‘oral’ narrative are not surprising, the way in which Liadon transforms the original game text into a situated performance is non-trivial. His story is based on a piece of narrative text built into the game (what ‘the mother tree told [him]’, line 27), the first part of which is shown in Figure 7. Compared to the original text, Liadon’s version is highly abbreviated, with all non-elf related details removed and restructured in a way that reorients the evaluation (lines 13-19) toward elves (foregrounded) and their relationship to fairies (backgrounded) rather than fairies (foregrounded) and the full set of creatures the story is originally about. In this way, Liadon adapts the original narrative to the situated needs of the apprenticeship episode under way: the need to explain what fairies are and, tacitly, why one ought not hunt them as one would other creatures.

In contrast to media claims, here gamers are going one step further than simply ‘reading aloud’ (cf. Wearden, 2001); they are rewriting the story for situated oral performance, surely a literacy practice no less worthwhile than simply orating another author’s text. Such performances within the virtual world are not uncommon, as gamers tend to place a high value on textually

produced verbal interaction and, therefore, on storytelling, one of our most important forms of 'making sense' (Bruner, 1986, 2003). As Cherny (1999) concludes in her study of MUDs, the technological predecessors of MMOGs, 'In all such systems, linguistic interactions have been primary: users exchange messages that cement the social bonds between them, messages that reflect *shared history and understandings* (or misunderstandings) about the always evolving local norms for these interactions' (p. 22, emphasis added). Such authored and adapted narratives play an especially important role in in-game apprenticeship episodes, as this example illustrates, by enculturating newcomers into the game lore that constitutes the community's shared knowledge and history.



Figure 7. The original in-game source of Liadon's 'orally delivered' narrative explaining the origin of the fairies in the Elven Forest.

Metagaming practices. Metagaming is a common literacy practice for game communities of all forms in which participants theorize their own game, both within the virtual environment of the game world itself and also beyond it in the online fandom space (e.g. website, discussion forums, chat rooms, blogs, wikis, and sundry other online text) that envelops every successful title to date. In the context of MMOGs, such practices include, for example:

- strategy development for group or guild endeavors (e.g. the creation of research documents about a given location of interest and planning documents based on them that provide a guide for future action);
- the development of game 'exploits' (e.g. the construction, evaluation, and revision of mathematical models of game mechanics based on data collected in-game, such as what combination of player characteristics is most effective in specific collaborative problem-solving endeavors such as hunting a particular boss monster [Steinkuehler & Chmiel, 2006]); and
- long deliberative discussions through which game communities actually theorize themselves, their own social network structures and functions, and what will and won't 'count' for

appropriate social engagement (e.g. moralizing on game discussion boards or within guild chat, or the development of and reflection on in-game norms for social interaction).

Consider, for example, the in-game exchange from *Lineage II* shown in Figure 8, which occurred in the guild chat channel. After several hours of ‘solo’ game play in which fellow guild members banter idly in the guild chat channel while pursuing their own solitary in-game activities, a conversation emerged in which guildmates develop a new ‘unit of measurement’ by which efficiency within the game might be calculated.

```

Zara      i dunno if it's just me but this lvl [level] seems so sloooooow
Zara      i'm not at 63% [of current avatar level]
Adeleide  yea [level] 39 is really slow
Duncan    it only makes sense...19 was painful,it makes sense by
Duncan    L2 [Lineage II] logic that 39 would be 100x moreso
Zara      i'm lucky to get 6% [of a level] per hr
Adeleide  Cruma would give u 10% / hr but not much better
Duncan    Yea 10%/hr is what I expect from Cruma. It's become
Duncan    my marker for progress everywhere.
Adeleide  yea... cruma is evil that way
Duncan    I think we should make it a unit of measurement.
Duncan    1 cruma, 0.8 crumas
Zara      lol
Lin2/10.06.04

```

Figure 8. Transcript of *Lineage II* in-game conversation in which guildmates develop a new ‘unit of measurement’ by which efficiency within the game might be calculated.

In *Lineage II*, *efficiency* in experience points per hour (the mechanism by which you level your avatar and therefore gain more strength, better skills, etc.) is a highly valued and sought after goal. In order to maximize efficiency, many gamers actually time their rate of experience increase while hunting various territories in order to keep track of how well they are doing, on average, in different areas given their avatar’s current level. Cruma Tower is a notoriously efficient hunting area within the virtual world of *Lineage II*; it is also, however, famous for grief play: gankers, player-killers (PKers), trash talkers, kill-stealers (KSers), and sundry other unpleasant personae. Thus, few gamers care to stay there for very long periods at a time, despite how productive it is as an area for leveling one’s character. In the exchange shown in Figure 8, one guild member initiates troubles-telling with a remark about how slowly he is currently progressing. In response, guildmates first sympathize, then compare their current progress to hunting in Cruma Tower. What emerges is a new ‘unit of measurement’ by which efficiency within the game might be measured in terms of ‘crumas’ – the amount of leveling experience one would get, on average, per hour, within that not-so-pleasant area. The result is simultaneously entertaining and functional: if one knows how one’s current hunting territory compares with the most efficient area in the game, then one can gauge whether or not the pleasure of hunting in the given non-Cruma area outweighs the decrease in economic use of time. Thus, through in situ reflection on in-game activity through the lens of shared regard for both productivity and pleasure, the guild community arrived at one theoretical construct (of many) by which to express the relative trade-offs the game design occasions between efficiency versus freedom of movement.

While the cruma unit ‘meme’ (Blackmore, 1999; Lankshear & Knobel, 2003) largely remained a local practice, used within a single guild both in-game and within guild discussion forums and subsequent online conversations, other such metagaming practices have a much broader and extensive life of their own. Take, for example, the server-based practice of ‘farming the farmers’ that emerged and took hold on the American *Lineage II* server Bartz (for a complete discussion, see Steinkuehler, 2006b). In MMOG circles, it is now common knowledge that virtual, in-game money can be readily exchanged for real, out-of-game money (Castronova, 2001) through online trading sites (such as eBay), and that some people from Asian countries (and others) play on North American servers in order to work for real-world pay from companies solely in the business of

virtual currency trade (such as IGE). The practice in which individuals are hired by a virtual-currency selling company to spend long hours in-game collecting adena (the in-game currency of *Lineage*) has come to be called ‘Chinese adena farming’. The practice continues to flourish, despite NCSOFT’s efforts to stop it (Russell, 2004) and despite intense negative response in the USA, with a vast majority of the American *Lineage II* gamers resenting the effects that adena farming has had on their game (despite the fact that American gamers are, indeed, one of the driving forces behind it).

Most relevant to our discussion, however, is the metagaming practice that so-called ‘Chinese adena farming’ has occasioned American gamers to develop in response: a practice called ‘farming the farmers’. Leisure players have forgone the usual between-guild competitions for castle control, the one game mechanic that made *Lineage* titles unique, and have instead joined forces in a sort of ‘us versus them’ mentality to wage perpetual field war against all (perceived) Chinese adena farmers. The waging of this informal war is composed of several key literacy practices, including:

- the in- and out-of-game negotiation and coordination among various guilds to forgo all standard castle competition among them and instead join hands in scheduled ‘raids’ against purported farmers in overtaken virtual territories of the game;
- the planning and execution of large in-game ‘extermination’ campaigns called ‘Farm the Farmers Day’ on all purported farmers within the virtual world itself; and finally (and perhaps more importantly)
- the documentation of such raids in the form of online debriefing discussions and commentary, websites, and fan videos.

At last check, the fan videos, numbered chronologically, were up to ‘Farm the Farmers Day VI’ and the practice has managed to jump games and spread virally to other MMOG titles (such as *World of Warcraft*). Figure 9 shows three screenshots from one such web-posted video from ‘Farm the Farmers Day II’ (finalElf, n.d.) that documents one such collaborative expedition. In the left panel is the title screen of the fan video. The middle panel shows several ‘legitimate’ gamers, including the video’s creator (a renowned gamer named finalElf) clearing the Cruma Tower area (a particularly over-farmed virtual territory in the game) of Chinese adena farmers. In the right panel is the final screen of the fan video, which reads: ‘Fuck the Farmers. And Fuck the lazy rich boys who pay them’ (finalElf, n.d.)



Figure 9. Screenshots from the fan-generated digital in-game movie entitled ‘Farm the Farmers Day II’ (finalElf, n.d.)

Obviously, metagaming practices such as these are thoroughly caught up with both local (server) and global politics. But then, all literacy practices, even when defined narrowly as ‘the reading and writing of print text’, are caught up with politics as such (Gee, 1996). They are also potentially quite transformative in terms of the context in which they are situated. Here, for example, the metagaming practice of ‘farming the farmers’ has effectively transformed core game mechanics for which *Lineage* was once famous (between-clan sieges for castles in the virtual world) into Americans-versus-Chinese raids on said farmers by a community desperately trying to rid themselves of what they see as a ‘cancer’ in the virtual world (Steinkuehler, 2006b). Gamer communities are necessarily in a perpetual state of development that crucially includes the development, maintenance, and transformation of thoroughly literate practices in order to maintain their fitness relative to the systems they co-evolve with (cf. Van Valen, 1973) – game

designs and redesigns, economic realities, legal regulation, and even the emerging global technologies and practices that make up the broader online world, to name a few.

Official versus unofficial fandom. MMOGaming is participation in a domain of literacy, one with fuzzy boundaries that expand with continued play: what is at first confined to the game alone soon spills over into the virtual world beyond it (e.g. websites, chat rooms, email) and even into life off-screen (e.g. telephone calls, face-to-face meetings). The online fandom that surrounds successful game titles is a rich yet nebulous sphere of multimodal multimedia including websites, blogs, threaded discussion boards, fan fictions, fan art, annotated game screenshots, cartoons, chat rooms, instant messaging, in-character emails, and even VoIP. A selected subset of the fandom terrain is 'official' and linked to the corporate website (<http://www.lineage2.com/>), having met the company's purported standards of:

- *relevance*, defined mostly in terms of exclusivity, as no multigame sites are allowed;
- *quality*, meaning they cannot contain incomplete web pages, outdated game information, or broken links);
- *decency*, meaning no offensive material;
- *originality*, defined as containing new information, not simply repeats of content from other sites; and
- *compliance* with the game's End User License Agreement (among other things, containing no references to trade of virtual items for real cash outside the game, despite the prevalence of the practice, as discussed above).

The primary fan sites to make the company's cut are most commonly, in fact, vast database-backed research websites that function as unofficial – yet by far the most accurate – user manuals for the game. Such sites are instantiations of the community's 'collective intelligence' (Levy, 1999): online repositories in which gamers publish what they know about the game and revise one another's findings on a range of topics as diverse as which monsters drop which items, all the way to which quests are and are not worthwhile to complete.

This official fandom, however, barely scratches the surface of game fandom in its entirety, not only in terms of the volume of fan-authored content but also in terms of what gamers actually access and use as a regular part of their game play. As one informant aptly stated, 'For the most part I enjoy finding my own information, it feels somehow rewarding because the majority of the information I come by is from interactive online communities, like fansites and forums'. Unofficial fandom includes a wealth of resources that support not only social interaction among gamers but also research (e.g. to find what the most efficient and effective set of equipment for a given character might be) and development (e.g. inventing novel siege strategies) as well. *Lineage* fans (like all MMOG fans) take the resources provided them by the game itself, and building from it, create a rich culture of text, images, and ideas.

Fan websites. The fan site for the guild in which I personally participated is a case in point. Built originally by a member who works as a professional web designer in New York City, the LegendsOfAden (LoA) guild website is a collection of *player generated content*, created over a period of roughly three years of gaming together as one group (see Figure 10). Although our guild was lucky to have a professional designer among its membership who was willing to create the template for the website which members could then populate (averaging roughly 130 members throughout much of the guild's history), our site was considered fairly standard, no more elaborate than most guilds sustain. In truth, there is a 'keeping up with the Joneses' attitude among guild leaders and their administration (guild members with officer rank of some form) such that novel online utilities and documents quickly become standard ones as guilds borrow and adapt useful ideas from one another in creating online out-of-game web content for their members.

As a community shared document, the LoA guild website includes such diverse forms of writing as:

- formal statements about recruitment rules and the code of honor (social rules that guide members' behaviors);
- a list of the hierarchical ranks within the guild and their responsibilities;

- members' pages, which include posed screenshots of each member's avatar and a brief write-up on who they see themselves to be;
- password protected pages, accessible only to LoA members, that list the guild's friends and foes, a shared calendar that tracks various collaborative events within the community such as training days and sieges, the guild's pooled wealth from taxation and donations, and graphs of members' aggregated statistics in terms of character type and strength;
- online forms for gathering such information from individual members;
- links to public and private discussion forums (discussed below);
- annotated screenshots of significant in-game events which together function as a public scrapbook of guild triumphs and adventures (which, in turn, helps establish a sense of group affiliation both internally, among guild members, and externally, with the broader community of the game);
- collections of guild members' and guild friends' fan fiction (also discussed below); and links to in-character email accounts for reaching key leaders in the group.

Here, authorship is *thoroughly distributed*, with multiple people 'writing' the text that others, both members and non-members alike, then 'read' as an instantiation of our guild identity. As Turkle (1995) notes, 'Since [virtual worlds] are authored by their players, thousands of people in all, often hundreds at a time, are all logged on from different places; the solitary author is displaced and distributed' (p. 185).

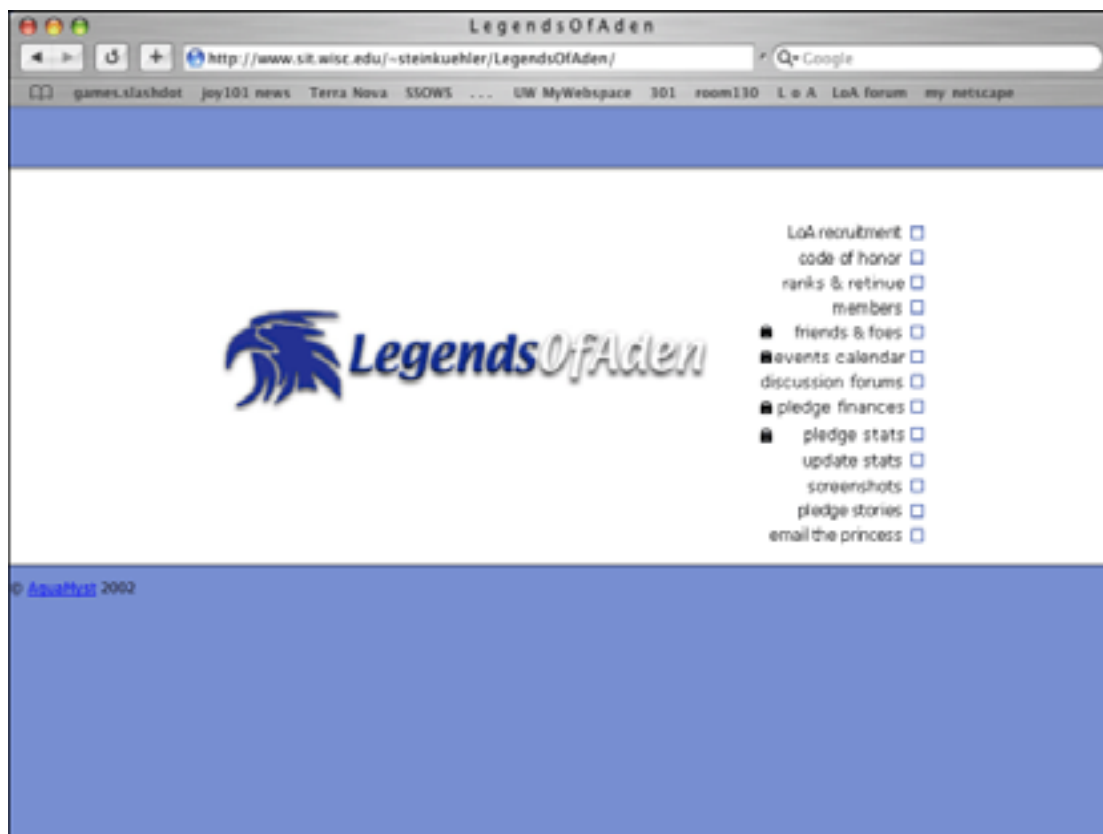


Figure 10. The LegendsOfAden guild website.

Game discussion boards. Although *Lineage* has official discussion boards linked to their corporate website which are highly active, it is customary for guild and fan sites to have *unofficial* discussion boards of their own as well. Here, participants discuss a vast range of topics, from which skill path is best for a given class of avatar to in-game gossip about who-did-what-to-whom. Multiple genres of writing can be found within such forums, from argumentation to expository writing, from personal journal-like entries to game reviews, from historical essays (on topics such as the origin of the clan name) to journalistic accounts of important in-game events (such as the previous evening's

war with another guild), from persuasive writing to jokes, stories, explanations, accounts, thank you letters, and even the occasional five-paragraph essay. In fact, much of the content of the guild websites themselves begins here, within guild forums, as participants collaboratively propose, draft, revise, and polish text that later becomes official guild site content.

By providing spaces for social interaction and relationships beyond the workplace and home, such online discussion forums – much like the virtual worlds with which they are associated (Steinkuehler & Williams, 2006) – function as one novel form of a new ‘third place’ (Oldenburg, 1999) for informal sociability much like the pubs, coffee shops, and other hangouts of old. However, unlike bricks and mortar ones, these are composed thoroughly and nearly exclusively in terms of print text (in close second, digital images, and in more distant third, digital movie and sound). And as sites for literacy, they are non-trivial: As of July 2005, the LegendsOfAden (LoA) forum linked to the website shown in Figure 10 contained nine separate sections (three LoA-members only sections that are password protected, six public sections where anyone can post) comprised of 298 separate topics discussion threads total across all sections for a grand total of 1600 written posts (and two full years of online text interaction have occurred since that time). Such reading and writing is part and parcel of what it means to participate in the MMOG guild community. Thus, when media experts report that gaming is displacing reading and writing text in the lives of contemporary adolescents, one questions the extent to which they have taken seriously what successful gaming entails, particularly the unofficial player-generated text content that gamers overwhelmingly consume and produce.

Fan fiction. Guild and fan websites also feature original creative work that players generate based on content designed into the virtual worlds they inhabit, such as art, poetry, and fiction. Like all interpretive communities, MMOGamers take up the symbolic, cultural materials offered them by media to collectively create the form and substance of their own cultural worlds (Taylor, 2002, in press; Squire & Steinkuehler, 2006). In this way, they are no different from the folk cultures of old, except that now the consumers have increasingly user-friendly tools at their disposal to work with, including online access to socio-technical networks that enable their easy distribution, such as fan groups and guilds. As Jenkins (1998) points out:

Historically, our culture evolved through a collective process of collaboration and elaboration. Folk tales, legends, myths and ballads were built up over time as people added elements that made them more meaningful to their own contexts. The Industrial Revolution resulted in the privatization of culture ... Fans respond ... by applying the traditional practices of a folk culture to mass culture, treating film or television as if it offered them raw materials for telling their own stories and resources for forging their own communities ... (para. 32)

Consider, for example, the fan fiction excerpt shown in Figure 11.

Blinding Twilight
by [REDACTED]
for [REDACTED]

As dawn eclipsed the town of Aden, it seemed that its light would never reach the end of the grand city. Built under the tyrannical rule of Ken Rauhel and the corrupt mage Cerenis, it seemed almost impossible that such a beautiful city was grounded in their despotic ideals. I looked across the horizon and nudged at [REDACTED], who had fallen asleep during last night's vigil



Figure 11. Excerpt of the fan fiction piece written by a Lineage I gamer.

The piece was featured on the official *Lineage* website in 2003 and was forwarded to the LoA guild website for distribution via the 'LoA short stories' page. In it, the author writes about a pseudo-fictional adventure (partially based on an actual occurrence, partially based on the genre conventions of medieval fantasy stories) in which he and another character participated within the virtual world of *Lineage*. The story is written at a grade level appropriate to his age; however, what is most interesting here is the purpose for which he purportedly wrote it. The story is dedicated to the second main character appearing in its pages – a *Lineage* girl gamer roughly the same age as the author. In the email requesting its distribution via the LoA guild site, the author wrote, 'I included a new story if you would like to read or post up, its awesome ^^ [raised eyebrows] even though I just used it to hit on this girl ...'

It is difficult to imagine another context in contemporary American youth culture in which writing a short story might be viewed as a recognizable way to court girls. In the context of MMOGs, however, such writing is a central and highly valued practice. Here, adeptness with the pen, so to speak, carries a certain social status such that those who show exceptional skill in the creation of content often develop a rather large following. In MMOGs, such writing is *not* considered as ancillary to gaming but rather as a central part of participating. The following transcript (see Figure 12) is an excellent case in point.

SharpPaw	oh yeah! to celebrate me coming back to pledge &
SharpPaw	being rank ive decided to write another story!
SharpPaw	for site!
Adeleide	omg do it! we need more stories!
SharpPaw	^^ o'course
SharpPaw	in fact ive planned it
SharpPaw	i got the PERFECT story idea the other day when
.	.
.	.
.	.
SharpPaw	its called An Old Knight's Tale
SharpPaw	youll see it within the next 2-3months
Adeleide	wow! do u like to write in ur spare time?
SharpPaw	well na i like to play this in my spare time
Lial/03.01.04	

Figure 12. Transcript of *Lineage* I in-game conversation in which a student discusses the short story he has recently decided to author over summer break.

In this in-game exchange, a beginning high school student who is on summer break discusses the short story he has recently decided to author in commemoration of rejoining the guild and being promoted in rank. When asked whether he likes to write in his spare time, he responds, somewhat baffled, 'well na i like to play this in my spare time'. In the context of MMOGs at least, school-age children are perfectly willing to engage in long, thoughtful writing projects – '2-3 months' planning, not including the initial work he did prior to this exchange – in their own spare time, not as isolated literary 'assignments' but as part and parcel of what it means to game online.

Discussion

Throughout this article, I have made the argument that, even when based on a restricted version of what it means to read and write, examination of what gamers actually do during play reveals that gaming, at least in the context of MMOGs, is not replacing literacy practice but rather is a literacy practice. If we compare what individuals do within these spaces to national reading, writing, and technology standards, it turns out that much of their activity can be seen as satisfying what we, as a nation, say we want our children to be engaged in and capable of. For example, as recommended by the National Council of Teachers of English (n.d.) standards, MMOGamers: 'read a wide range

of print and non-print texts' to build an understanding of texts and of themselves (Standard no. 1); use a wide range of strategies to 'comprehend, interpret, evaluate, and appreciate texts', including '[drawing] on their prior experience, their interactions with other readers and writers' (Standard no. 3); use an equally wide range of strategies to author texts of their own (Standard no. 5); use their understanding of 'language structure, language conventions ... media techniques, figurative language, and genre to create, critique, and discuss print' (Standard no. 6); 'gather, evaluate, and synthesize data from a variety of sources' in order to conduct research on issues of interest to them (Standard no. 7); and, perhaps most of all, 'use spoken, written, and visual language to accomplish *their own purposes*' (Standard no. 12, emphasis added). If we compare what such standards require to what MMOGs, in practice, exact from those who play, it turns out that video games are not a threat to literacy in contemporary culture but rather one important (albeit novel) part of it.

If so, then what lies behind these claims of a 'literacy crisis'? They are at least partially rooted in a long-standing fear of technology (Williams, 2006), an equally long-standing fear of youth culture (Jenkins, 1999), and a fear of *what* children are reading and writing, not *whether* they are engaged in such practices per se. Games, like all new media before them, have roused deeply ambivalent feelings in American culture, often masking deeper societal tensions and problems (Wartella & Reeves, 1983, 1985). Consider, for example, the media attention given to the gaming habits of the Columbine High School shooters. One could argue, however, that such attitudes are rooted in societal guilt over the mistreatment of American youth, one that mistakenly casts them as the *source* of problems (in this case, violence and crime) rather than the *victims* of those too-easily ignored risk factors associated with them (e.g. poverty, neglect, abuse). Without taking a broader historical view, it is easy to recycle arguments made in the past that technology and/or popular culture are corrupting our youth, each time simply substituting in the latest 'menace' (e.g. rock and roll, comic books, television, telephone, etc.) to all things cultural and good (typically, fine literature, the arts, and other expensive pastimes of the white, Christian, middle-class majority). Such concerns are well intended. Teachers and parents want to provide their children access to cultural capital. Yet, such presumptions can sometimes mistake past values for future ones and, in so doing, risk not only thwarting their very intentions but also reproducing social class.

The third potential culprit, a fear of *what* children are reading and writing, not *whether*, has a rich history as well, but perhaps it initiates a conversation, that, unlike the other two, is worth resurrecting. In today's thoroughly networked, globalized, increasingly 'flat' (Friedman, 2005) world, adolescents and adults are engaged with copious amounts of reading and writing as part of their everyday lifeworld; they just happen to be doing it in spaces and with content that may not be always sanctioned by adults. Perhaps the value of such spaces should be reconsidered, though. There is much concern expressed about youth culture's seeming engrossment in 'merely passive' consumption of corporate-owned and profit-driven content. From that view, MMOGs and other informal spaces look particularly promising, for it is through such virtual worlds that adolescents, through the very act of reading and writing, transform increasingly 'corporate owned' culture into the 'raw materials for telling [our] own stories and resources for forging [our] own communities' (Jenkins, 1998, para. 32).

Notes

- [1] Violence in America is actually declining and has been for the past decade (Catalano, 2004), although this particular media misrepresentation is different from the one taken issue with here.
- [2] Reading aloud? National statistics on the prevalence of this form of activity are lacking, but it is rather difficult not to imagine this as some form of nostalgia for a world as long gone as the days of Lord Alfred Tennyson.
- [3] Evidence that each chat channel serves a designated social function is that, when communications meant for one (e.g. whispers) are incorrectly issued in another (e.g. public talk), individuals customarily signal the error with 'w/c' which translates as 'wrong channel' and reissue the text within the channel context for which it was meant.
- [4] All transcript excerpts are verbatim save changes for ease of reading, such as typographical corrections and supplementation of deictic references or truncations with appropriate, expanded referents [in square brackets]. Pseudonyms replace all avatars' names save the author's.

References

- Barton, D. (1994) *Literacy: an introduction to the ecology of written language*. Oxford: Blackwell.
- Blackmore, S. (1999) *The Meme Machine*. New York: Oxford University Press.
- Bruner, J. (1986) *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press.
- Bruner, J. (2003) *Making Stories: law, literature, life*. Cambridge, MA: Harvard University Press.
- Castronova, E. (2001) *Virtual Worlds: a first-hand account of market and society on the cyberian frontier*. CESifo Working Paper Series No. 618.
- Catalano, S.M. (2004) *Criminal Victimization, 2003*. NCJ Publication No. 205455. Washington, DC: Bureau of Justice Statistics.
- Cazden, C. (1988) *Classroom Discourse: the language of teaching and learning*. Portsmouth, NH: Heinemann.
- Cherny, L. (1999) *Conversation and Community: discourse in a social MUD*. Stanford: CSLI Publications.
- Clinton, K. (2004) Being-In-Digital-Worlds as a New Kind of Resource for Learning. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Cook-Gumperz, J. (Ed.) (1986) *The Social Construction of Literacy*. Cambridge: Cambridge University Press.
- finalElf (n.d.) *Farm the Farmers Day II* [digital in-game movie]. <http://lin2.warcry.com/> (accessed 1 October 2004).
- Friedman, T.L. (2005) *The World is Flat: a brief history of the twenty-first century*. New York: Farrar, Straus & Giroux.
- Gee, J.P. (1992) *The Social Mind: language, ideology, and social practice*. New York: Bergin & Garvey.
- Gee, J.P. (1996) *Social Linguistics and Literacies: ideology in discourses* (2nd edn). London: RoutledgeFalmer.
- Gee, J.P. (1999) *An Introduction to Discourse Analysis: theory and method*. New York: Routledge.
- Gee, J.P. (2003) *What Videogames have to Teach Us about Learning and Literacy*. New York: Palgrave Macmillan.
- Geertz, C. (1973) *The Interpretation of Cultures*. New York: Basic Books.
- Goodwin, M.H. (1990) *He-Said-She-Said: talk as social organization among black children*. Bloomington: Indiana University Press.
- Gumperz, J.J. (Ed.) (1982) *Language and Social Identity*. Cambridge: Cambridge University Press.
- Gygax, G. & Arneson, D. (1973) *Dungeons and Dragons* (1st edn). Lake Geneva, WI: TSR.
- Heath, S.B. (1983) *Ways with Words: language, life, and work in communities and classrooms*. Cambridge: Cambridge University Press.
- Huizinga, J. (1938) *Homo Ludens: a study in the play-elements in culture* (R.F.C. Hull, Trans.). Boston: Beacon.
- Hutchins, E. (1995) *Cognition in the Wild*. Cambridge, MA: MIT Press.
- Jenkins, H., III (1998) The Poachers and the Stormtroopers: popular culture in the digital age. Paper presented at the University of Michigan.
- Jenkins, H., III (1999) Professor Jenkins goes to Washington, *Harper's Magazine*, 299(1790), p. 19.
- Kirmse, A. & Kirmse, C. (1996) *Meridian 59*. 3DO Company. <http://meridian59.neardeathstudios.com/>
- Knobel, M. (1999) *Everyday Literacies: students, discourse, and social practice*. New York: Peter Lang.
- Kolbert, E. (2001, May 28) Pimps and Dragons: how an online world survived a social breakdown, *The New Yorker*, 77(13), 88.
- Koster, R. (2002) *Online world timeline*. <http://www.legendmud.org/raph> (accessed 2 October 2004).
- Kress, G. (1985) *Linguistic Processes in Sociocultural Practice*. Oxford: Oxford University Press.
- Labov, W. (1972) *Language in the Inner City: studies in the Black English vernacular*. Philadelphia: University of Pennsylvania Press.
- Labov, W. & Waletzky, J. (1967) Narrative Analysis, in J. Helm (Ed.) *Essays on the Verbal and Visual Arts*, 12-44. Seattle: University of Washington Press.
- Lankshear, C. (1997) *Changing Literacies* (Changing Education series). Buckingham: Open University Press.
- Lankshear, C. & Knobel, M. (2003) *New Literacies: changing knowledge and classroom learning*. Buckingham: Open University Press.
- Lave, J. (1988) *Cognition in Practice: mind, mathematics, and culture in everyday life*. Cambridge: Cambridge University Press.
- Lemke, J. (n.d.) *Why Study Games? Notes toward a Basic Research Agenda for Education*. Unpublished manuscript.

- Levy, P. (1999) *Collective Intelligence: mankind's emerging world in cyberspace* (trans. Robert Bononno). Cambridge, MA: Perseus Books.
- Mandese, J. (2004, April 5) Video Games Emerge as 'No. 4' Medium, *Media Daily News*.
http://publications.mediapost.com/index.cfm?fuseaction=Articles.showArticle&art_aid=4814 (accessed 8 July 2005).
- National Council of Teachers of English (n.d.) *Standards for the English Language Arts*.
<http://www.ncte.org/about/over/standards/110846.htm> (accessed 10 July 2005).
- National Institute for Literacy (n.d.) What is Literacy? In *Frequently Asked Questions*.
<http://www.nifl.gov/nifl/faqs.html> (accessed 9 July 2005).
- New London Group (1996) A Pedagogy of Multiliteracies: designing social futures, *Harvard Educational Review*, 66(1), 60-92.
- Oldenburg, R. (1999) *The Great Good Place: cafés, coffee shops, community centers, beauty parlors, general stores, bars, hangouts, and how they get you through the day*. New York: Marlowe & Company.
- Rideout, V., Roberts, D.F. & Foehr, U.G. (2005) *Generation M: media in the lives of 8-18 year-olds*. Publication No. 7250. Washington, DC: The Henry J. Kaiser Family Foundation.
- Robison, A.J. (2004) The 'Internal Design Grammar' of Video Games. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Russell, M. (2004, October 11) Gaming the Online Games, *Newsweek International*, 144(16) 16, E32 2c.
- Sanders, B. (1995) *A Is for Ox: the collapse of literacy and the rise of violence in an electronic age*. New York: Random House.
- Solomon, A. (2004) The Closing of the American Book, *New York Times*, 10 July, p. A17.
- Squire, K.D. & Steinkuehler, C.A. (2006) Generating CyberCulture/s: the case of Star Wars Galaxies, in D. Gibbs & K.L. Krause (Eds) *Cyberlines: languages and cultures of the Internet* (2nd edn). Albert Park, Australia: James Nicholas.
- Steinkuehler, C.A. (2004) Learning in Massively Multiplayer Online Games, in Y.B. Kafai, W.A. Sandoval, N. Enyedy, A.S. Nixon & F. Herrera (Eds) *Proceedings of the Sixth International Conference of the Learning Sciences*, 521-528. Mahwah: Erlbaum.
- Steinkuehler, C. (2005) *Cognition and Learning in Massively Multiplayer Online Games: a critical approach*. Madison: University of Wisconsin-Madison.
- Steinkuehler, C.A. (2006a) Massively Multiplayer Online Videogaming as Participation in a Discourse, *Mind, Culture, & Activity*, 13(1), 38-52.
- Steinkuehler, C. (2006b) The Mangle of Play, *Games & Culture*, 1(3), 1-14.
<http://dx.doi.org/10.1177/1555412006290440>
- Steinkuehler, C. & Chmiel, M. (2006) Fostering Scientific Habits of Mind in the Context of Online Play, in S.A. Barab, K.E. Hay, N.B. Songer & D.T. Hickey (Eds) *Proceedings of the International Conference of the Learning Sciences* 723-729. Mahwah: Erlbaum.
- Steinkuehler, C. & Williams, D. (2006) Where Everybody Knows Your (Screen) Name: online games as 'third places', *Journal of Computer-Mediated Communication*, 11(4), article 1.
- Steinkuehler, C., Black, R. & Clinton, K. (2005) Researching Literacy as Tool, Place, and Way of Being, *Reading Research Quarterly*, 40(1), 7-12.
- Street, B. (1984) *Literacy in Theory and Practice*. Cambridge: Cambridge University Press.
- Street, B. (Ed.) (1993) *Cross-cultural Approaches to Literacy*. Cambridge: Cambridge University Press.
- Taylor, T.L. (2002) Whose Game is This Anyway? Negotiating Corporate Ownership in a Virtual World, in F. Mäyrä (Ed.) *Computer Games and Digital Cultures Conference Proceedings*, 227-242. Tampere: Tampere University Press.
- Taylor, T.L. (in press) Pushing the Borders: player participation and game culture, in J. Karaganis & N. Jeremijenko (Eds) *Network_Netplay: structures of participation in digital culture*. Durham: Duke University Press.
- Thrasher, R.H., Jr (1974) Shouldn't Ignore These Strings: a study of conversational deletion. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Tolkien, J.R. (1938) *The Hobbit*. Boston: Houghton Mifflin.
- Trubshaw, R. & Bartle, R. (1978) MUD1. Essex.
- Turkle, S. (1995) *Life on the Screen: identity in the age of the Internet*. New York: Touchstone.
- Van Valen, L. (1973) A New Evolutionary Law, *Evolutionary Theory*, 1, 1-30.

- Wartella, E. & Reeves, D. (1983) Recurring Issues in Research on Children and Media, *Educational Technology*, 23, 5-9.
- Wartella, E. & Reeves, D. (1985) Historical Trends in Research on Children and the Media: 1900-1960, *Journal of Communication*, 35, 118-133. <http://dx.doi.org/10.1111/j.1460-2466.1985.tb02238.x>
- Wearden, G. (2001, August 20) Researchers: video games hurt brain development, *CNET News*, 20 August. http://news.com.com/Researchers+Video+games+hurt+brain+development/2100-1040_3-271849.html (accessed 6 July 2005).
- Weber, B. (2004) Fewer Noses Stuck in Books in America, Survey Finds, *New York Times*, 8 July, p. E1.
- Williams, D. (2006) A (Brief) Social History of Gaming, in P. Vorderer & J. Bryant (Eds) *Video Games: motivations and consequences of use*. Mahwah: Erlbaum.
- Woodcock, B. (2006) *An Analysis of MMOG Subscription Growth – version 18.0*. <http://www.mmogchart.com/> (accessed 10 July 2006).

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